

Family Pleuronectidae

Body dextral, usually more or less elliptical in contour. Head unsymmetrical, cranium twisted. Eyes and color on right side (except rarely in a few genera and some reversed examples). Mouth unsymmetrical, jaws on eyed side with nearly straight outline, on blind side strongly curved. Teeth chiefly on blind side. Preopercle edge not hidden by scales. Vertical fins well separated from caudal. Anal spine usually strong. Pectorals well developed. Ventrals

A 1554. Han Wam, Formosa. January

1910. Length 216 mm.

55488 U.S.N.M. Honolulu. Dr. O.P.

Jenkins. Length 190 to 273 mm.

3 examples. As Tenthis matorides.

All have pale horizontal lines and smallest without black spot at base of last dorsal and anal rays.

50673 U.S.N.M. Honolulu. Bureau of Fisheries. Type of Tenthis atramentatus.

nearly or quite symmetrical,  
on eyed side not prolonged  
along side of abdomen.

Holacanthus multispinis Playfair.

Holacanthus multispinis Playfair, Fishes  
of Zanzibar, 1866, p. 37, plate 6, fig. 4.  
Zanzibar.

Holacanthus somerwillii Regan, Trans. Linn. Soc. London, vol. 12, series 3, 1908, <sup>pt. 3,</sup> p. 28, plate 24, fig. 6. Cocting, Seychelles Group.  
Snout very obtuse. Interorbital with 2 to  
4 spines, posterior longest and longer than  
additional preopercular spines. Preopercle  
spine flat, smooth, reaches pectoral base,  
smaller spine in front. Suborbital strongly  
denticulated. Scales 47 in lateral line.  
D. XIV, 16; A. III, 17; soft dorsal and anal  
subrhomboid, not elevated.

Uniform dark silky brown or black.  
In life deep brown, darker anteriorly,  
with numerous black wavy bands, some  
interrupted. Blue longitudinal band parallel  
to anal. On shoulder black blotch with  
bluish border. Dorsal with black basal  
band and 2 similar parallel ones in soft  
portion. Anal with 3 dark parallel bands

2226

Genus Georhombus Castelnau

Georhombus Castelnau, (Res. Fishes  
Australia) Victoria Offic. Rec.  
Phila. Exhib., p. 45, 1875. (Type  
~~Leorhombus~~ Georhombus unicolor  
Castelnau, monotypic.)

2227

Neorhombus unicolor Castelnau

Neorhombus unicolor Castelnau,  
(Res. Fishes Australia) Victoria  
Offic. Rec. Phila. Exhib., p. 45,  
1875 (type locality: Fremantle,  
Western Australia). — McCulloch,  
Austral. Mus. Mem., No. 5, pt. 2,  
p. 282, Sep. 10, 1929 (reference).

Depth  $I \frac{7}{8}$  to  $2 \frac{1}{4}$ ; head  $3 \frac{2}{5}$  to  $3 \frac{7}{8}$ , width  $I \frac{7}{8}$  to 2. Snout  $I \frac{4}{5}$  to  $I \frac{7}{8}$ ; eye  $3 \frac{1}{8}$  to 5,  $I \frac{3}{4}$  to  $2 \frac{3}{5}$  in snout,  $I \frac{7}{8}$  to  $I \frac{5}{6}$  in interorbital; teeth 20 to 22 in each jaw; maxillary  $3 \frac{2}{5}$  to  $4 \frac{1}{4}$  in head; interorbital 3 to  $3 \frac{1}{8}$ , convexly elevated; opercle with a few vertical, obscure grooves. Gillrakers  $5 + 12$ , short, feeble, cuneate points.

Scales with minute circuli; apical denticles II to I3, with 4 or 5 series of transversebasal elements.

D. IX, 26, i or 27, i, ninth spine  $I \frac{2}{5}$  to  $I \frac{4}{5}$  in head, fifth ray  $I \frac{1}{3}$  to  $I \frac{2}{5}$ ; A. III, 24, i or 25, i, third spine  $I \frac{7}{8}$  to  $2 \frac{1}{4}$ , first ray  $I \frac{2}{3}$  to  $I \frac{3}{4}$ ; caudal deeply lunate,  $2 \frac{2}{3}$  to  $2 \frac{3}{4}$  in combined head and body; least depth of caudal peduncle  $2 \frac{7}{8}$  to 3 in head; pectoral  $3 \frac{1}{8}$  to  $3 \frac{1}{4}$  in combined head and body; ventral  $I \frac{1}{5}$  to  $I \frac{1}{4}$  in head.

# Analysis of Genera

- a. Pleuronectinae. Mouth small or large, symmetrical; fin rays not extended.
- b. Eyes and color on right side.
- c. Gill membranes united.
- d. Mouth small.
- e. Each eye with a tentacle.
- e.<sup>2</sup> Eyes without tentacles. Hematops. Poecilopsetta.
- d.<sup>2</sup> Mouth large.
- f. Scales firm, cover upper surfaces of eyes, jaws and snout.
- f.<sup>2</sup> Scales deciduous, not covering surface of eyes, jaws or snout; vomer toothed. Lepidoblepharon.
- c.<sup>2</sup> Gill membranes separate. Brachypleura.
- b.<sup>2</sup> Eyes and color on left side. Paralichthodes.
- a.<sup>2</sup> Lamarinae. Mouth symmetrical, with jaws and dentition nearly equally developed on both sides; front dorsal rays greatly prolonged. Brachypleurops.

2229

g.<sup>1</sup> Dorsal and right ventral  
with extended rays; caudal  
rays simple. Samaris.

g.<sup>2</sup> Dorsal and right ventral  
rays not greatly extended;  
caudal rays branched.

Samariscus.

a.<sup>3</sup> Rhombosoleinae. Mouth usually  
asymmetrical, dentition always  
more developed on blind side;  
front dorsal rays not greatly  
prolonged.

h.<sup>1</sup> Two ventral fins.

i.<sup>1</sup> Right ventral free from  
anal, rays 10 or 11; lateral  
line with slight curve  
anteriorly. Lzygopus.

i.<sup>2</sup> Right ventral joined to  
anal.

j.<sup>1</sup> Dorsal begins above eyes;  
snout not extended. Pelotretis.

k.<sup>1</sup> Mouth visible on ocular  
side; none of right  
pectoral rays extended.

Ammotretis.

2230  
h.<sup>2</sup> mouth not visible on  
ocular side; upper right  
pectoral ray filamentous.

Peltorhamphus.

h.<sup>2</sup> one ventral fin. Rhombosolea.

2231

Genus Hematops Günther

Hematops Günther, Rep. Voy. Challenger,  
vol. 1, pt. 6, p. 57, 1880. (Type  
Hematops microstoma Günther,  
monotypic.)

Eyes on right side, close together,  
upper encroaching upon upper profile.  
Each eye usually with tentacle.  
Mouth narrow, small. Teeth small,  
scarcely any on colored side. No teeth  
on palate. Scales moderate, ctenoid  
on colored or right side, cycloid on  
blind side. Lateral line with  
arch above anteriorly. Dorsal begins  
above eye. Pectorals equally  
developed. Ventrals opposite or  
nearly so.

East Indies and Melanesia.

Pleuronectidae

Leurotopus <sup>ehui</sup> philippinus n. s.

Pseudopsetta megalepis n. s.

Brachyplurus n. g. n. s.

B. axillaris n. s.

Samariscus lyonensis n. s.

" macrognathus n. s.

" fasciatus n. s.

2232

Hematops philippinensis <sup>chui</sup> new species

Depth  $2\frac{7}{8}$ ; head  $3\frac{3}{4}$ , width  $3\frac{1}{2}$ .  
Snout tip to lower orbit  $6\frac{1}{4}$  in head from snout tip; lower orbit  $2\frac{3}{4}$ , over twice snout length; only lower orbit with supero-posterior filament which  $\frac{1}{3}$  orbital length; lower orbit  $\frac{1}{4}$  in advance of upper which smaller and impinging on upper profile of head; maxillary reaches  $\frac{1}{4}$  in lower orbit, expansion 6, length  $3\frac{1}{2}$  in head from snout tip; interorbital as narrow low keel. Gill rakers  $5+9$ , lanceolate,  $\frac{2}{3}$  of gill filaments, which 3 in lower orbit.

Scales 48 in lateral line to caudal base and 7 more on latter;

557

Only known from the 2 examples  
listed below.

9657 (6735 U.S.N.M.) [1634]. Agofio  
Point, Catanduanes Island. June 10, 1909.  
Length 96 mm. Type.

8270 [704]. Fort San Pio Quinto,  
Camiguin Island. November 11, 1908.  
Length 85 mm. No yellow, pale parts  
silvery, darker parts black. Paratype.

12 above, 11 below. Muzzle  
naked. Dorsal and anal naked,  
caudal scaly basally. Scales  
with 7 or 8 basal radiating striae  
with fin edge angularly scalloped;  
20 to 23 slender similar apical  
denticles, with 3 transverse  
short series basally; circuli fine,  
continuous. <sup>Left scales cycloid.</sup>

Arch of lateral line  $2\frac{3}{5}$  in  
straight section, <sup>none on right</sup> side.

D. 63, fin height 2 in total head;  
A. 53, fin height  $1\frac{1}{2}$ ; caudal  
 $3\frac{3}{5}$  in rest of fish; least depth  
of caudal peduncle  $2\frac{1}{8}$  <sup>in total head length</sup>; pectoral  
 $4\frac{1}{10}$ ; ventral  $2\frac{1}{3}$ .

Right side largely uniform  
tawny-olive. Orbits <sup>dark</sup> neutral gray.  
Fins all more or less brownish,  
dorsal with about 9 dark subbasal  
small spots and anal with 6,  
terminally both fins with scattered

1  $\frac{1}{3}$ ; ventral 1  $\frac{1}{8}$  to 1  $\frac{1}{3}$ .

Whitish generally. Above eyes short, narrow blackish bar or broken as 2 spots. Blackish broad band from predorsal down to opercle above. Second blackish band from middle of spinous dorsal down to middle of side. Third broad blackish band from ends of last dorsal spines and front of soft dorsal down across tail and caudal peduncle to include last anal rays. Soft dorsal edged whitish, then dark submarginal line. Blackish line along edge of scaly basal anal sheath and lower or front edge of soft anal. Caudal pale, with median whitish crescent behind, next to broad blackish one submarginally and dull brown median hind border to fin. Spinous anal with blackish on membranes. Paired fins pale brownish. Iris whitish.

dark dots obscurely on fin rays. Caudal with median fin membranes largely blackish brown, and transversely fin with at least 2 obscure dark transverse bands. Pectoral blackish brown terminally.

Diagnosis. Distinguished from the known species by its more slender body, its body depth nearly 3, only lower orbit with tentacle and scales intermediate in number compared with those of known species. In Hematops grandisquama Weber and Beaufort they are large (44 to 48) and in h. microstoma Günther they are smaller (65).

Depth  $1\frac{2}{3}$  to  $1\frac{4}{5}$ ; head 3 to  $3\frac{1}{8}$ , width  $1\frac{7}{8}$  to 2. Snout  $2\frac{1}{4}$  to  $2\frac{1}{2}$  in head from snout tip; eye 3 to  $3\frac{1}{8}$ , 1 to  $1\frac{2}{5}$  in snout, little greater than interorbital to equal with age; maxillary  $\frac{1}{2}$  to  $\frac{3}{5}$  in snout,  $3\frac{3}{4}$  to 4 in head; interorbital  $3\frac{1}{4}$  to  $3\frac{1}{5}$ , broadly convex. Gill rakers 4 + 15, short, flexible, slender points,  $\frac{1}{5}$  of gill filaments, which  $1\frac{2}{3}$  in eye.

Scales 32 or 33 between gill opening and caudal base; tubes 36 to 38 in lateral line; 6 or 7 scales above lateral line, 12 or 13 below. Scales with 17 to 20 basal radiating striae; apical denticles 124 to 148, with 7 to 8 transverse series of basal elements; circuli five.

D. XIV, 22, I, fourth spine  $1\frac{3}{5}$  to  $1\frac{3}{4}$  in total head length, fourth ray  $1\frac{2}{5}$  to  $1\frac{3}{5}$ ; A. IV, 16, I, third spine  $1\frac{2}{5}$ , third ray  $1\frac{1}{4}$  to  $1\frac{1}{3}$ ; least depth of caudal peduncle  $2\frac{7}{8}$  to  $3\frac{1}{4}$ ; caudal truncate,  $1\frac{2}{3}$  to  $1\frac{4}{5}$ ; pectoral  $1\frac{1}{5}$  to

U. S. N. Mus., no.

2235  
, type.

D. 5110. Corregidor Light, N. 20° E.,  
25 miles (lat. 13° 59' 20" N., long.  
120° 75' 45" E.), China Sea off  
southern Luzon. In 135 fathoms.  
January 15, 1908. Length 82 mm.  
Type.

Chaetodon argentatus Smith and Radcliffe.

Chaetodon argentatus Smith and Radcliffe,  
Proc. U. S. Nat. Mus., vol. 40, 1911, p. 319, fig. 1.  
Agajo Point, Southern Luzon.

hematops grandisquama Weber and  
Beaufort

hematops grandisquama Weber and  
Beaufort, Fishes Indo Austral.  
Archips., vol. 5, p. 134, fig. 32, 1929  
(type locality: St. Nicholas Bay,  
Bali, 108 to 162 meters).

11-2-43.

Pages 2232 through 2235 either  
misnumbered or missing.

E. M. Wade

2237

Hematops microstoma Günther

Hematops microstoma Günther, Rep.  
Voy. Challenger, vol. 1, pt. 6, p. 57, 1880

pl. 24, fig. C,

(type locality: Outside Hares Harbour,  
Admiralty Islands, 152 fathoms).

— Jordan and Seale, Bull. Bur. Fisher,  
vol. 25, p. 413, 1905 (1906) (name). —

Fowler, Mem. Bishop Mus., vol. 10,  
p. 92, 1928 (compiled).

2238

Genus Poecilopsetta Günther

Poecilopsetta Günther, Rep. Voy.

Challenger, vol. 1, pt. 6, p. 48, 1880.

(Type Poecilopsetta colorata Günther,  
monotypic.)

Boopsetta Alcock, Journ. Asiatic Soc.

Bengal, vol. 65, pt. 2, p. 305, Oct. 1,

1896. (Type Boopsetta umbrarum  
Alcock, monotypic.)

Glaeops Jordan and Starks, Bull. U.S.

Fish Comm., vol. 22, p. 623, 1902 (1904).

(Type Glaeops plinthus Jordan and  
Starks, monotypic.)

Orbits large, lower little advanced,  
close together. Mouth moderate,  
rather narrow. Maxillary  $\frac{1}{3}$  length  
of head. Each jaw with narrow band  
of villiform teeth. Palate toothless.  
Gill membranes united below throat.  
Gill rakers numerous, moderate,

2239  
pointed. Scales moderate or  
small, ctenoid, cycloid in young,  
somewhat caducous. Lateral line  
simple, arched anteriorly, upper  
part of arch level or horizontal.  
Dorsal begins above middle of  
eye. Caudal rounded. Paired  
fins well developed. Eyes and  
color on right side.

body.

1207 [1908]. Tictanun Island.

April 8, 1907. Length 180 mm. Reddish brown. Side of head and breast spotted with live brown. Dorsal with purplish edge, brown bars about equal interspaces. Anal like dorsal, darker. Caudal narrowly tipped white in fork.

Pectoral membranes hyaline. Ventral like body color. No shoulder blotch.

14517. Ulugan Bay, Rota Island.

December 29, 1908. Length 168 mm.

16462,

7342, 14007, 16463, 16464. West coast of

Palau Island. November 18, 1908. Length 103 to 128 mm.

6966. West coast of Sabtan Island.

November 8, 1908. Length 158 mm.

Poecilopsetta colorata Günther<sup>2240</sup>

Poecilopsetta colorata Günther, Rep.  
Voy. Challenger, vol. 1, pt. 6, p. 48, pl.  
22, fig. B, 1880 (type locality: Ki  
Islands, 129 fathoms); vol. 22, p. 162,  
1887 (types). — Horman, Rec. Indian  
Mus., vol. 29, pt. 1, p. 41, April 1927  
(type of P. maculosa; Andaman Sea;  
142 to 400 fathoms). — Weber and  
Beaufort, Fishes Indo Austral.  
Archip., vol. 5, p. 136, 1929 (type).

Poecilopsetta maculosa Alcock,  
Journ. Asiatic Soc. Bengal, vol.  
63, pt. 2, no. 2, p. 130, pl. 7, fig. 1,  
1894 (type locality: Bengal Bay, 145  
to 250 fathoms); Illustrat. Zool.  
Investigator, pt. 3, pl. 15, fig. 1,  
1895. — Goode and Bean, Oceanic

Ichth., p. 535, 1895 (name). — Alcock,  
Journ. Asiatic Soc. Bengal, vol. 65, pt. 2,  
p. 328, 1896 (  
— Weber and Beaufort, Fishes Indo

2241

Austral. Archip., vol. 5, p. 137, fig.  
33, 1899 (north of Bali; Timor Sea;  
Ki Islands).

Boopsetta maculosa Aloock, Descr.  
Cat. Deep Sea Fishes Ind. Mus., p.  
127, 1899 (type locality: Bengal Bay;  
Andaman Sea; 145 to 250 fathoms).  
— Weber, Siboga Exped., vol. 57, p. 434,  
1913 (Ki Islands; Timor Sea; 216 to  
310 meters).

Depth  $2\frac{1}{6}$ ; head  $3\frac{3}{4}$ , width  $3\frac{1}{8}$ . Snout tip to lower orbit  $6\frac{1}{3}$  in head from snout tip,  $2\frac{1}{2}$  in lower orbit; lower orbit 3 in head from snout tip,  $\frac{1}{4}$  in advance of upper; maxillary vertical, extends  $\frac{1}{4}$  in lower orbit, expansion 5 in lower orbit, length  $3\frac{1}{4}$  in head from snout tip; interorbital narrow, width  $\frac{1}{6}$  of lower orbit, concave. Gill rakers  $6 + 13$ , lanceolate,  $1\frac{1}{5}$  in gill filaments, which  $3\frac{1}{2}$  in lower orbit.

Scales 98 in lateral line to caudal base and 10 more on latter; 39 above, 40 below. Caudal largely covered with small scales, other fins naked. Scales ctenoid on blind side, ctenoid on colored side. Scales with 4 or 5 basal radiating striae, edge scalloped; 5 to 10 short apical denticles; circuli moderate. Lateral line arched anteriorly, arch flattened above, 3 in straight section to caudal base. D. 61, fin height 2 in total head

length ; A. 50, fin height 2 ;  
caudal  $1\frac{1}{8}$ , convex behind ; least  
depth of caudal peduncle  $2\frac{1}{4}$  ;  
pectoral  $1\frac{2}{3}$  ; ventral  $2\frac{1}{5}$  .

Brown on right side, with  
numerous small scattered deep  
brown spots. Body semipellucid  
as held to light broadly along  
interradial regions. Orbits slate  
gray. Vertical fin brown, very  
narrowly all edged light or pale.  
Caudal behind middle with  
large black blotch, nearly equal  
to orbit, one above marginally and  
another similarly below. Pectoral  
largely blackish brown medially,  
paler terminally and basally.  
Right ventral brown, edged  
with whitish. Left side whitish,  
with 4 rows of obscure dusky  
blotches in medial musculature.  
Also row of still more obscure  
dark blotches along dorsal and  
anal bases though on marginal  
portions on body, none on semipellucid

areas. Vertical fins of left side grayish, 2 blackish marginal caudal blotches gray black. Paired fins of left side white.

(East Indies; Philippines.  
Bengal Bay, Andaman Sea)

10068. D. 5275. Malavatuau Island (N.), S. 71° E., 10.75 miles (lat. 13° 55' 55" N., long. 120° 10' 15" E.), China Sea, vicinity of southern Luzon: In 117 fathoms: July 16, 1908. Length

Poecilopsetta hawaiiensis Gilbert

Poecilopsetta hawaiiensis Gilbert, Bull.  
U.S. Fish Comm., vol. 23, pt. 2, p. 679,  
pl. 95, 1903 (1905) (type locality:  
Pailolo Channel between Molokai  
and Maui, 128 to 138 fathoms; Laysan;  
Oahu; 128 to 238 fathoms). — Fowler,  
Mem. Bishop Mus., vol. 10, p. 93, 1928  
(copied).

2246

Poecilopsetta plinthus (Jordan and Starks)

Alaeops plinthus Jordan and Starks,  
Bull. U. S. Fish Comm., vol. 22, p. 623,  
pl. 5, fig. 2, 1902 (1904) (type locality:  
Suruga Bay; Owari Bay);  
Proc. U. S. Nat. Mus., vol. 31, p. 199, fig.  
12, 1906 (type). — Jordan, Tanaka, Snyder,  
Journ. College Sci. Tokyo, vol. 33, p.  
323, fig. 272 (copied), 1913 (reference).  
— Izuka and Matsuura, Cat. Zool.  
Spec. Mus. Tokyo, Vertebr., p. 117, 1920  
(Ajino, Izu).

Poecilopsetta plinthus Tanaka, Journ.  
Fac. Sci. Univ. Tokyo, sect. 4, Zool.,  
vol. 3, pt. 1, p. 38, Nov. 4, 1931 (reference).

2247

Poecilopsetta praelonga Alcock

Poecilopsetta praelonga Alcock, Journ. Asiatic Soc. Bengal, vol. 63, pt. 2, no. 2, p. 130, pl. 7, fig. 3, 1894 (type locality: off Colombo, 142 to 400 fathoms).

Goode and Bean, Oceanic Ichth., p. 535, 1895 (name). — Alcock, Journ. Asiatic Soc. Bengal, vol. 65, pt. 2, p. 328, 1896 ( ); Ann. Mag. Nat. Hist., ser. 7, vol. 2, p. 156, 1896.

— Norman, Rec. Indian Mus., vol. 29, pt. 1, p. 40, fig. 11, 1927 (type; type of Boopsetta umbrarum; Andaman Sea).

(Illustrat. Zool. Investigator, pt. 3, p. 45, fig. 2, 1895).

Boopsetta umbrarum Alcock, Journ. Asiatic Soc. Bengal, vol. 65, pt. 2, no. 3, p. 305, Oct. 1, 1896 (type locality: off Colombo, 180 to 217 fathoms); Illustrat. Zool. Investigator, pt. 4, pl. 17, fig. 5, 1896.

Depth  $2\frac{2}{3}$  to 3; head  $3\frac{3}{4}$  to  $3\frac{4}{5}$ , width 3 to  $3\frac{3}{5}$ . Snout to lower orbit  $6\frac{1}{8}$  to 7 in head from snout tip; lower orbit  $2\frac{2}{5}$  to  $2\frac{7}{8}$ , nearly opposite upper orbit to  $\frac{1}{4}$  in advance; maxillary reaches  $\frac{1}{3}$  to  $\frac{2}{5}$  in lower orbit, length 3 to  $3\frac{1}{8}$  in head from snout tip; interorbital very narrow bony frenum,  $\frac{1}{7}$  lower eye diameter. Gill rakers  $8+9$ , lanceolate, short,  $1\frac{1}{4}$  in gill filaments, which  $2\frac{1}{2}$  in lower orbit.

Scales 89 to 91 in lateral line to caudal base and 10 to 12 more on latter; 21 or 22 above, 32 or 33 below. Fins scaleless, except

15788. Sabtan Island. November 9,  
1909. Length 150 mm.

11923. Viani Island market. February  
17, 1908. Length 160 mm.

12892. Kimalue Island. August 10, 1909.  
Length 164 mm.

15831 [1993]. Vitanki reef, north west  
of Tuminiao Island. September 24, 1909.  
Length 145 mm. Brownish after fading.  
Side of head and breast with numerous  
small orange speckles. Dorsal with  
brown bar terminally and posteriorly,  
edge black and black blotch at axil.  
Anal like dorsal, bars nearly or quite  
obsolete and edge of fin violet. Caudal  
with narrow whitish margin in fork  
resting on black, fin otherwise like

caudal which nearly entirely <sup>2249</sup>  
covered with small scales. Snout  
and maxillary scaleless. Scales  
with 8 to 12 short basal radiating  
striae; 10 to 16 slender pointed  
apical denticles; circuli moderate,  
mostly continuous. Right scales  
cycloid. Arch of lateral line  
 $2\frac{7}{8}$  to 3 in straight section to  
caudal base.

D. 60 to 62, fin height 2 to  $2\frac{4}{5}$   
in total head length; A. 50 to 52,  
fin height  $2\frac{1}{8}$  to  $2\frac{1}{3}$ ; caudal  $1\frac{1}{10}$   
to  $1\frac{1}{6}$ , cuneate behind; least depth  
of caudal peduncle  $2\frac{1}{4}$  to  $2\frac{4}{5}$ ;  
right pectoral 2 to  $2\frac{1}{3}$ ; left  
pectoral  $1\frac{3}{4}$  to  $1\frac{4}{5}$ ; right ventral

987

~~14435. Subat, Vologan, Luzon.~~

~~June 23, 1904. Length 107 mm.~~

~~<sup>5441</sup>  
5440, and 7463. Maculabo Island.~~

~~June 14, 1909. Length 180 to 198 mm.~~

~~21286. Malampipa Island. September 8,  
1909. Length 138 mm.~~

~~11211 to 11213. Matnog Bay. May 31,  
1909. Length 172 to 180 mm.~~

~~7428, 17162, 17539. Port Matalvi,  
Luzon. November 23, 1908. Length 140 to  
158 mm.~~

~~14169. Pangasinan Bay. May 15, 1908.  
Length 146 mm.~~

~~12705. Reef of South Lagoon, Trinidad  
Island. February 26, 1908. Length 133 mm.~~

~~11402, 19250 to 19252. Subatan Island.  
November 9, 1909. Length 110 to 140 mm.~~

$2\frac{1}{5}$  to  $2\frac{2}{5}$ ; left ventral  $2\frac{1}{4}$  to  $2\frac{1}{2}$ .

Right side brown, variously warm brown to umber. Most examples with 6 or 7 broad dark brown to dusky transverse bands, wider than their paler interspaces and sometimes obscure or obliterated along median axis of body so body appears to have 2 rows of dark bordering blotches. Against pale interspaces may be invaded by the darker tints so that they are virtually several series of rounded variable pale spots. Dark bands often united medially and may form 4 series

14435. Gubat, Sorsogon, Luzon.  
June 23, 1909. Length 107 mm.

12970 and 14640 [1703]. Lango Point,  
extreme southern Luzon. June 24, 1909.  
Length 155 to 175 mm. Dark brown.  
Side of head with small orange spots.  
No evidence of stripes on side of body.  
Caudal spine with black socket.  
Dorsal and anal edged with black,  
and few narrow bars on outer part  
of soft dorsal. Likely black spot in  
dorsal and anal axils. Caudal edge  
nearly white in fork. Pectoral  
without yellow.

of markings like letter H. Dorsal and anal more brownish to dusky basally, paler to whitish terminally. Caudal pale or light basally, with transverse median row of blackish spots, sometimes fused as band, or other spots variably terminally. Pectoral ventral black terminally, pale basally. Right ventral with some brown tints. Left paired fins white. Ground color of left side whitish. Most all examples with median muscular area of blind sides marked with 4 series of about 6 or 7 alternating

16745. Baganga Bay. May 13, 1908.  
Length 155 mm.

9281. Basot Island, Pocket Bay.  
June 11, 1909. Length 153 mm.

16814. Butanomon Island. June 12,  
1909. Length 160 mm.

14458. Cuyo Island, Cuyo. April 7, 1909.  
Length 100 mm.

7435, 10776, 10777, 14322. Daluyunen  
Island. April 8, 1909. Length 150 to 168 mm.

14621. Doc Com Island. January 7, 1910.  
Length 157 mm.

4571. Grande Island reef, Subic Bay.  
January 8, 1908. Length 140 mm. Uniform  
black, except hind caudal edge which  
pale blue and golden iris.

dark of blackish spots. Also row along and within edges of dorsal and anal profiles of body. Dark basal or subbasal tints of vertical fins distinct.

Ceylon, Andaman Sea. An interesting species, preserved examples showing a very variable contrasted blotched appearance. When held to the light their dorsal and anal regions of the trunk and tail are seen broadly translucent, in contrast with the thicker median more solid muscular region. Norman mentions "The right pectoral is broken in all the

5687, 7675. Agajo Point, Catanduanes Island. June 10, 1909. Length 115 to 118 mm.

~~14779 [1331]. Bagacay Island<sup>Bay</sup>, Escarpada Island, Marañon Group. March 13, 1909. Length 175 mm. Ground color bistre. Sides of head and breast with brown spots. Chin black, rather sharply demarcated on line continuing lower edge of gill opening. No shoulder blotch. Dorsal edged violet black, likely purple in life, fin with 8 or more brown bars, most apparent in transmitted light. Anal similar, purple border much broader, with few bars which obscure. Caudal white in fork, rather darker than body. Pectoral membrane hyaline, upper ray darkest.~~

specimens, and cannot be accurately measured" though in mine it is mostly intact and apparently little smaller than his outline figure shows.

~~India, Ceylon.~~

887  
ii. Caudal without white basal band.

j. Posterior half of pectoral yellow.

dorensis

jj. Pectoral uniformly dusky.

k. No black spot in pectoral axil or  
at base of last dorsal or anal rays.

mata

kk. Black blotch in pectoral axil  
showing below base of fin. thompsoni

kkk. Black spot at base of last dorsal  
ray and another at base of last anal  
ray.

elongatus

hh. Whitish band from front of spinous  
dorsal down to postocular and opercle  
region, sometimes pale.

leucopareus

yy. Uniform yellow.

chrysosoma

ff. Reddish brown, with scattered blue dots on  
head and trunk; vertical fins blackish  
brown, dorsal and anal with blue edges.

marginatus

11-5-43.

Pages 2254 through 2259  
either misnumbered or missing.

E. M. Wade

Poecilopsetta megalepis new species

Depth  $2\frac{1}{2}$  to 3; head  $3\frac{3}{5}$  to  $3\frac{3}{4}$ , width  $3\frac{1}{4}$  to  $3\frac{1}{2}$ . Snout to lower orbit  $6\frac{1}{2}$  to  $7\frac{3}{4}$  in head; lower orbit  $2\frac{3}{4}$  to 3, orbits nearly or quite opposite or lower advanced  $\frac{1}{4}$  its length; maxillary extends  $\frac{1}{4}$  to  $\frac{1}{3}$  in lower orbit, length  $2\frac{1}{2}$  to 3 in head; interorbital very narrow, bony keel, leaving 2 orbits almost touching. Gill rakers 6+9, lanceolate,  $\frac{1}{3}$  of lower orbit; gill filaments  $\frac{4}{5}$  of gill rakers.

Scales 50 to 60 in lateral line to caudal base and 5 to 7 more on latter; 16 or 17 above, 16 or 17 below. Muzzle naked. Caudal more or less covered basally with fine scales, fins otherwise naked.

b. No white ring around mouth or around lower jaw.

c. No black or yellow shoulder blotch.

d. Coloration nearly uniform, without conspicuous markings.

e. Caudal variable but not entirely pale yellow and greatly contrasted with rest of dark coloration.

f. Ground color brown, sometimes whitish band transversely across caudal base.

g. Not uniform yellow.

h. No pale or white transverse band from front of spinous dorsal down to opercle.

i. Caudal with transverse, white, broad, basal band, disappearing with age; dorsal and anal with dark blue longitudinal streaks; pectoral uniformly dusky.

fuliginosus

Scales with 8 to 11 basal radiating striae; 18 to 23 slender apical denticles, 3 to 5 series transversely; circuli very fine, continuous. Left scales all cycloid. Arch of lateral line  $2\frac{1}{2}$  to  $2\frac{3}{4}$  in straight section to caudal base.

D. 60 to 63, fin height 2 to  $2\frac{1}{8}$  in head; A. 50 to 54, fin height  $1\frac{7}{8}$  to  $2\frac{1}{5}$ ; caudal 1 to  $1\frac{1}{10}$ , cuneate; least depth of caudal peduncle 2 to  $2\frac{1}{8}$ ; right pectoral 2 in head to  $3\frac{3}{4}$  in body without caudal; left pectoral  $1\frac{1}{2}$  to  $1\frac{3}{4}$  in head; right ventral  $2\frac{2}{5}$  to  $2\frac{1}{2}$ ; left ventral  $2\frac{1}{4}$  to  $2\frac{2}{3}$ .

~~15156~~  
~~Length 235 mm.~~

7932. (Philippines.) No label.

Length 195 mm.

~~11672.~~

~~Length 165 mm.~~

5750 U.S.N.M. Tahiti. William Stimpson.

Length 225 mm.

30553 and 30633 U.S.N.M. New Guinea.  
 Australian Museum. Length 167 to 183 mm.

2257

Right side warm brown, variously and obscurely clouded with darker. Sometimes with 2 or 3 more distinct undefined dark blotches along straight section of lateral line, besides another anterior axial below arch. Dorsal with 8 or 9 obscure dark blotches and anal with 5 or 6, sometimes little evident. Caudal with blackish transverse band subbasal sometimes broken as 2 spots and blackish subterminal blotch may be present. Right pectoral neutral gray to black and when fin large each membrane may have longitudinal contrasted white streak. Right ventral tinted brown. Left pectoral and ventral white like whole left surface, though

894

Aspisurus Lacépède, Hist. Nat. Poiss., tome  
4, 1802, p. 556. Type Aspisurus rohar  
Lacépède, monotypic.

Ctenodon (non Wagler 1830) <sup>or Ehrenberg 1838</sup> Swainson, Nat.  
Hist. An., vol. 2, 1839, p. 256<sup>5</sup>. Type  
Ctenodon ruppellii (non Acanthurus  
ruppelli Bennett) Swainson = Chaetodon  
rohar Forsk.  
(Gronow)

Acanthurus Günther, Cat. Fish. Brit. Mus.,  
vol. 3, 1861, p. 345. Type Acanthurus  
argenteus  
~~orbicularis~~ Edw. and Gaimard, designated  
by Jordan, Genera of Fishes, pt. 3, 1919, p.  
307.

(designated by Swain, Proc. Acad. Nat.  
Sci. Phila., 1882, p. 276.

vertical fins more or less grayish with obscure dark blotches.

Diagnosis. Related to Poecilopsetta praelonga Alcock in its elongate body, though with greatly larger scales (55 to 67 compared with 90 to 95), more compact opaque body, less definite markings, greatly longer pectoral of colored side even exceeding head. P. colorata Günther differs in its greatly deeper body.

U. S. N. M., No.

, type.

Genus Hepatus Gronow.

Hepatus Gronow, Zoophylac., 1763, p. 113.  
Nomenclatorial. Type Tenthis hepatus  
Linnaeus, tantotypic.

Tenthis Linnaeus, Syst. Nat., ed. 12, 1766, p. 507.

Type Tenthis hepatus Linnaeus = Chaetodon  
caeruleus Bloch, designated by Gill,  
Proc. U.S. Nat. Mus., 1884, p. 278.

Tenthis Bonnaterre, Tabl. Ichth., 1788, p. LV  
(156). Type Tenthis hepatus Linnaeus.

→  
Tenthys Gouan, Hist. Pisc., 1770, p. 105.

Atypic. (Type Tenthis hepatus Linnaeus.)

Acanthurus Forskål, Deser. Animal., 1775,

p. 59. Type Tenthis hepatus Linnaeus, designated  
by Desmarest, Encycl. Hist. Nat. Rept. Poiss.

Chenu, 1874, p. 240.

Harporus Forster, Enchir. Hist. Nat., 1788, p.

84. Atypic. Type Chaetodon sokal Forskål,  
designated by Fowler, Journ. Acad. Nat. Sci.  
Phila., vol. 12, series 2, 1904, p. 544.

Rhinobotides, Clein, Rever Schampelaty, vol. 1, 1775, p. 922. Type  
Chaetodon caeruleus Bloch, designated by Jordan and Evermann, General of Fishes, pt. 1,  
1917, p. 38. (Nomenclatorial.)

2085. D. 5117. Sombrero Island,  
S. 17° E., 10.80 miles (lat. 13° 52' 22"  
N., long. 120° 46' 22" E.), Balayan  
Bay and Verde Island Passage.  
Dred 118 fathoms. January 21, 1908.  
Length 128 mm. Type.

2260

Genus Brachypleura Günther

Brachypleura Günther, Cat. Fishes  
Brit. Mus., vol. 4, p. 419, 1862.

(Type Brachypleura novae-zeelandiae  
Günther, monotypic.)

Laiopteryx Weber, Siboga Exped.,  
vol. 57, p. 422, 1913. (Type  
Brachypleura xanthosticta Alcock,  
monotypic.)

Eyes and color on right side,  
separated by bony keel. Mouth  
wide. Maxillary  $\frac{1}{2}$  head length.  
Teeth pointed, conic, curved,  
anterior outer ones little enlarged  
in both jaws, also biserial in  
both jaws. Vomerine teeth present.  
Gill membranes more or less  
united at throat. Gill rakers few,  
lanceolate. Scales moderate, deciduous,  
ctenoid on colored side, cycloid or  
nearly so on blind side. Lateral  
line arched over pectoral. Dorsal

2261  
and anal rays simple, caudal  
branched. Dorsal begins on  
snout before eyes, front rays  
filamentous in males. Pectorals  
developed on both sides. Base  
of right ventral well in advance  
of but smaller than left one.

879

20, 1859-60, p. 198 (Priaman). — Bleeker,  
Act. Soc. Sci. Ind. Néerl., vol. 1, no. 3, 1856,  
p. 8 (Macassar); vol. 2, no. 7, 1857, p. 5  
(Amboina); vol. 8 (Sumatra), 1859, p. 14  
(Priaman). — Günther, Cat. Fish. Brit. Mus.,  
vol. 3, 1861, p. 341 (Amboina). — Günther,  
Journ. Mus. Godeffroy, band 4, 1875, p. 115,  
plate 75 (Kingsmills). — Peters, Monatsb.  
Akad. Wiss. Berlin, 1876, p. 439 (Mauritius).  
— Day, Fishes of India, pt. 2, 1876, p. 206.  
— Günther, Rep. Voy. Challenger, vol. 1, <sup>pt.</sup> 6,  
1880, p. 52 (Sambangan). — Meyer, Ann.  
Soc. Espan. Hist. Nat. Madrid, vol. 14, 1885, p.  
24 (Manado, Celebes). — Day, Fauna British  
India, vol. 2, 1889, p. 143. — Ishikawa and  
Matsuura, Prelim. Cat. Fish. Mus. Tokyo,  
1897, p. 34 (Mauritius).  
Colocopus lambdurus Gill, Proc. U. S. Nat.  
Mus., vol. 7, 1884 (1885), p. 279 (in Günther  
1875).

2262

Brachypleura novae-zeelandiae Günther

Brachypleura novae-zeelandiae Günther,  
Cat. Fishes Brit. Mus., vol. 4, p. 419,  
1862 (type locality: New Zealand);  
Rep. Voy. Challenger, vol. 1, pt. 6, p. 49,  
1880 (Arafura Sea; off New Guinea; 30 to 49 fathoms).  
— Waite, Rec. Canterbury Mus., vol. 1,  
p. 26, 1907 (name). — Thorman, Rec.  
Indian Mus., vol. 29, pt. 1, p. 43, fig. 12,  
April 1927 (types; Ganjam, Gopalpur,  
Hughli River mouth, Bengal Bay,  
Andamans, Tenasserim, Maldives,  
12 to 53 fathoms). — Weber and  
Beaufort, Fishes Indo Austral.  
Archip., vol. 5, p. 145, fig. 37, 1929  
(Java Sea, Java, Madura Strait,  
Saleyer, Timor Sea). . .

↑ Brachypleura novae-zeelandiae Fowler,  
Mem. Bishop Mus., vol. 10, p. 93, 1928  
(on Günther).

locality: 28 miles South west of  
Puri, 25 fathoms; 5 miles south of  
Ganjam, 25 fathoms; vol. 65, pt. 2,

2262

Brachypleura novae-zeelandiae Günther

Brachypleura novae-zeelandiae Günther,  
Cat. Fishes Brit. Mus., vol. 4, p. 419,  
1862 (type locality: New Zealand);  
Rep. Voy. Challenger, vol. 1, pt. 6, p. 49,  
1880 (Arafura Sea; off New Guinea; 30 to 49 fathoms).  
— Waite, Rec. Canterbury Mus., vol. 1,  
p. 26, 1907 (name). — Thorman, Rec.  
Indian Mus., vol. 29, pt. 1, p. 43, fig. 12,  
April 1927 (types; Ganjam, Gopalpur,  
Hughli River mouth, Bengal Bay,  
Andaman, Tenasserim, Maldives,  
12 to 53 fathoms). — Weber and  
Beaufort, Fishes Indo Austral.  
Archip., vol. 5, p. 145, fig. 37, 1929  
(Java Sea, Java, Madura Strait,  
Saleyer, Timor Sea). —

Brachypleura xanthosticta Alcock,  
Journ. Asiatic Soc. Bengal, vol. 58,  
no. 3, p. 281, pl. 17, fig. 13, 1889 (type  
locality: 28 miles south west of  
Puri, 25 fathoms; 5 miles south of  
Ganjam, 25 fathoms); vol. 65, pt. 2,

p. 327, 1896 ( 2263  
Illustrat. Zool. Investigator, pt.  
5, pl. 22, fig. 2, 1898. — Regan, Trans.  
Linn. Soc. London, ser. 2, vol. 12, Zool.,  
pt. 3, p. 232, 1908 (Suwadiwa and  
Mulaku, Maldives). — Jenkins,  
Mem. Indian Mus., vol. 3, p. 27, 1910.

Laiopteryx xantosticta <sup>h</sup>Weber, Siboga  
Exped., vol. 57, p. 423, 1913 (Saleyer  
and Timor Sea, 18 to 73 meters).

Depth  $2\frac{1}{4}$  to  $2\frac{2}{3}$ ; head  $3\frac{1}{5}$  to  $3\frac{1}{4}$ ,  
width  $3\frac{2}{5}$  to  $3\frac{1}{2}$ . Snout to lower  
orbit 4 to  $4\frac{1}{6}$  in head from snout  
tip; lower orbit 4 to  $4\frac{1}{5}$ , 1 to  $1\frac{1}{5}$  in  
snout; upper orbit  $\frac{1}{4}$  to  $\frac{2}{5}$  in  
advance of lower orbit; maxillary  
reaches  $\frac{4}{5}$  or nearly opposite hind  
edge of lower orbit, expansion  $1\frac{1}{2}$   
to  $1\frac{5}{6}$  in lower orbit, length  $1\frac{4}{5}$  to  
2 in head from snout tip, strongly  
arched anteriorly; bony interorbital  
as narrow transverse keel, width  
6 in lower orbit. Gill rakers 6+9,

2264

rather thick, lanceolate,  $2\frac{1}{2}$  in lower orbit; gill filaments  $\frac{3}{4}$  gill rakers.

Scales 30 or 31 in lateral line to caudal base and 6 or 7 on latter; 4 above, 9 below. Snout, maxillary and mandible naked. Caudal largely covered with small scales basally, other fins naked. Scales with 10 to 14 basal radiating striae; 58 to 80 short apical denticles of which 3 series transversely; circuli very fine, more or less obsolete apically. Lateral line only on left side, arch  $1\frac{1}{2}$  to  $P\frac{3}{5}$  in straight section to caudal base.

Paracanthurus theuthis (Lacépède).  
Acanthurus theuthis Lacépède, Hist. nat.

Poiss., tome 4, 1802, pp. 547, 549. Ambonia  
 (on Linnaeus; not Carolina = Tenuthis hepatus  
Linnaeus).

Acanthurus tenuthis Shaw, Gen. Zool., vol. 4, 1803,  
 p. 377 (Indian [not American] Sea). —  
Weber, Siboga Exped., band 65, 1913, p. 318  
 (Banda).

Tenuthis hepatus (part) Linnaeus, Syst. Nat., ed.  
 12, 1766, p. 507 (Ambonia). — Gmelin, Syst.  
Nat. Lin., 1789, p. 1362. — Walbaum, Arted.  
Pisc., vol. 3, 1792, p. 622. — Forster, Fauna  
Indica, 1795, p. 16.

Acanthurus hepatus Schneider, Syst. Ichth.  
Bloch, 1801, p. 211 (Japan [not Bahamas]). —  
Valenciennes, Hist. nat. Poiss., vol. 10, 1835,  
 p. <sup>183</sup>734, plate 288 (Mauritius; New Guinea). —  
 — Bleeker, Nat. Tijds. Ned. Indie, deel 6, 1854,  
 p. (313) 325 (Larantuka, Floris Island); deel

D. 66 to 72, longest filamentous anterior rays  $1\frac{2}{3}$  to 2 in total length without caudal, uniform fin height  $2\frac{1}{4}$  to  $2\frac{3}{4}$  in total head length; A. 45 to 49, fin height  $2\frac{1}{3}$  to 3; caudal  $1\frac{1}{8}$  to  $1\frac{1}{6}$ , ends in median point behind; least depth of caudal peduncle  $2\frac{2}{3}$  to  $2\frac{3}{4}$ ; pectoral  $1\frac{1}{6}$  to  $1\frac{1}{4}$ ; left pectoral  $1\frac{3}{5}$  to  $1\frac{2}{3}$ ; left ventral  $2\frac{1}{8}$  to  $2\frac{1}{6}$ .

Largely dull brown on right side, slightly clouded darker, though most specimens without distinct markings. Vertical fins sprinkled with obscure dark specks on small spots. Orbits dark neutral gray. Left side evidently whitish.

877

Genus Paracanthurus Bleeker.

Paracanthurus Bleeker, Ned. Tijds. Dierk.,  
deel 1, 1863, p. 254. Type Tenthis hepatus  
(non Linnaeus) Schneider = Colocopus  
lambdurus Gill, monotypic.

Colocopus Gill, Proc. U. S. Nat. Mus., vol. 7,  
(1885),  
1884 p. 279. Type Colocopus lambdurus  
Gill, orthotypic.

Greatly like the typical species of  
Hepatus but with only 2 or 3 branched  
ventral rays.

This genus was first named by  
Bleeker, though apparently without  
diagnosis, a fact overlooked or ignored  
by Gill when he later proposed  
Colocopus.

India, Maldives, Andamans,  
East Indies, New Zealand. In  
males anterior dorsal rays  
prolonged as filaments.  
Preserved specimens are seldom  
with uninjured squamation  
and usually with uniform  
pale appearance. Sometimes 8  
to 10 dark blotches on vertical  
fins may be more or less  
distinct.

65807 U. S. N. M. Papeete, Tahiti.  
Albatross Collection [05925]. Length  
55 to 57 mm. 2 examples.

84223 and 84255 U. S. N. M. Zamboanga,  
Philippines. Dr. F. Baker. Length 125 to 155 mm.

2267

Genus Paralichthodes Gilchrist  
Paralichthodes Gilchrist, Marine  
Investig. South Africa, vol. 2, p. 108,  
1904. (Type Paralichthodes algoensis  
Gilchrist, monotypic.)

Eyes on right side. No premaxillary.  
Mouth rather large, nearly symmetrical.  
Teeth small, pointed, 2 or 3 series  
in jaws. Palate toothless. Preopercle  
edge free. Olfactory laminae arranged  
transversely to or radiating from  
central axis. Gill membranes separate.  
Vertebrae 31, of which 21 caudal.  
Scales small, cycloid. Lateral line  
on both sides with strong anterior  
arch. Dorsal extends forward on  
snout, above nostrils on blind side,  
all rays articulated. Ventral rays  
6, base short, fins symmetrical,  
right nearly median and further  
forward than left.

2268

Paralichthodes algoensis Gilchrist

Paralichthodes algoensis Gilchrist,  
Marine Investig. South Africa, vol. 2,  
p. 108, pl. 8, 1904 (type locality:  
Algoa Bay [Port Elizabeth]).  
— Regan, Ann. Natal Mus., 1908,  
p. 243 (Durban Bay). — Gilchrist  
and Thompson, Ann. South African  
Mus., vol. 6, pt. 3, p. 262, 1909  
(Durban Beach); Ann. Durban  
Mus., vol. 1, pt. 4, p. 397, May 1917  
(compiled). — Thompson, Marine  
Biol. Rep. South Africa, vol. 4, p.  
125, 1918. — Regan, Ann. Durban  
Mus., vol. 2, pt. 5, p. 214, 1920  
(Durban; Algoa Bay). — Barnard,  
Ann. South African Mus., vol. 21,  
pt. 1, p. 398, June 1925 (Algoa Bay,  
East London, Natal, 27 to 40 fathoms).

11-5-43.

Pages 2269 through 2275 either  
misnumbered or missing.

E. W. Wade

Brachypleurops new genus

Type Brachypleurops axillaris new species.

Body elongately ovoid. Head rather large. Snout short. Orbits large, very close together, on left side, separated by bony ridge. Mouth very large. Maxillary oblique, expanded behind, reaches below hind part of eye. Teeth uniformly small, in bands in jaws. Mandible well protruded before snout. Gill rakers few, moderately slender. Scales very deciduous, ctenoid on left side, cycloid on right side. Lateral line arched anteriorly, arch half of straight section to caudal base. Dorsal begins on snout before eyes. Rays of vertical fin branched. Both pectorals developed, ~~low~~ right one much lower. Right ventral greatly longer than left.

Diagnosis. Greatly like  
Brachypleura Günther differing  
fundamentally in the eyes and  
coloration entirely on the left side.  
Moreover the right pectoral is  
larger than the left, and the  
same is true of the ventrals.  
In its sinistral coloration it  
differs from all the other genera  
of the Samarinae, though has  
little contrasted coloration and  
features certainly of the Samaridae  
this subfamily.

972

terminally but not forming a bar.  
Pectoral lemon yellow terminally.

Ventral body color, darkened with  
olivaceous. No shoulder mark.

6166. Mansalay, Misamis. June 4,  
1908. Length 332<sup>mm</sup>. General color  
rather light brown. Dorsal and  
anal with alternate slaty and  
orange bands. Pectoral yellow  
terminally and internally.

1282 to 1284. Misamis Bay. August  
9, 1909. Length 270 to 370 mm.

A 933. Pasajoy Island. November 16, 1909.  
Length 500 mm. Slate brown, becoming  
bluish posteriorly; scarcely trace of  
stripes before caudal peduncle; breast  
and lower head with obscure darker

Brachypleura<sup>opt</sup> axillaris new species.

depth  $2\frac{2}{5}$  to  $2\frac{2}{3}$ ; head 3 to  $3\frac{1}{8}$ , width  $3\frac{3}{5}$  to 4. Snout to lower orbit  $4\frac{2}{5}$  to  $4\frac{1}{2}$  in head from snout tip; lower orbit  $4\frac{4}{5}$  to 5,  $1\frac{1}{8}$  to  $1\frac{1}{6}$  in snout; upper orbit  $\frac{1}{6}$  to  $\frac{1}{4}$  in advance of lower; maxillary reaches  $\frac{2}{3}$  to  $\frac{4}{5}$  in lower orbit, expansion  $1\frac{2}{5}$  to  $1\frac{1}{2}$ , length 2 to  $2\frac{1}{8}$  in head from snout tip; interorbital narrow. bony frenum, width  $\frac{1}{4}$  of eye. Gill rakers 5+9, lanceolate, subequal with gill filaments, which  $\frac{1}{2}$  of eye.

Scales 40 to 42 in lateral

8812 to 8814. Maculabo Island.  
June 13, 1909. Length 255 to 290 mm.

8509 and 8510. Makesi Island,  
Palawan. April 5, 1909. Length  
295 to 334 mm. Slaty purplish  
most pronounced posteriorly,  
sometimes with distinct waved  
lateral waved stripes on side  
medially. Yellow area before and  
behind eye. Margin of dorsal and  
anal olive; usually 3 distinct  
olive bands on each below margin  
in dorsal, lowest branching posteriorly.  
dorsal and anal bands very various,  
usually 5 or more not including  
marginal. Caudal purplish,  
somewhat marked with olive brown

line to caudal base and 5 more on latter; 10 above, 10 or 11 below. Snout and mandible naked. Maxillary scaly. Caudal covered with small scales. Scales with 19 to 21 basal radiating striae; 74 to 86 short uniform apical denticles, 4 to 8 series transversely; circuli fine.

D.  $61, \pm$ , to  $67, \pm$ , fin height  $2\frac{1}{5}$  to  $2\frac{1}{2}$  in total head length; A. 45 to 48, fin height 2 to  $2\frac{1}{4}$ ; caudal  $1\frac{1}{3}$  to  $1\frac{1}{2}$ , broadly cuneate behind; least depth of caudal peduncle  $3\frac{1}{8}$  to  $3\frac{3}{5}$ ; left pectoral 2 to  $2\frac{1}{10}$ ; right

Iris brown. Caudal spine black above, whitish in socket. Dorsal and anal terminally olive, body color below yellow, longitudinal bands slaty. Tail uniform. Pectoral terminally yellow about width of orbit.

9110. Bigoso Point, Samar. July 28, 1909.  
Length 260 mm.

9251. Inamucan Bay, Mindoro.  
August 8, 1909. Length 260 mm.

5196. Jolo market. March 7, 1908.  
Length 283 mm.

5973. Little Santa Cruz Island. May 26, 1908. Length 257 mm.

6060. Little Santa Cruz Island. May 28, 1908. Length 590 mm.

pectoral  $1\frac{3}{5}$  to  $1\frac{4}{5}$ ; right ventral  
 $2\frac{2}{3}$  to 3, left ventral  $2\frac{3}{5}$  to  
 $2\frac{7}{8}$ .

Left side brown and pockets  
of most fallen scales all dusky,  
apparently with some darker  
cloudings in intact squamation.  
Orbits dark neutral gray. Fins  
all pale, vertical ones with small  
dark spots. Along dorsal subbasally  
about 16 rather large dark spots  
and last in axil of each of  
last rays on caudal peduncle.  
Anal with 9 similar subbasal  
blackish blotches, last also in  
axil of last rays on caudal

brown nearly width of pupil and 3 similar bars less distinct on rest of each fin. Caudal like body, with white basal bar turning gray in alcohol. Pectorals yellowish, clear lemon yellow terminally above, hyaline below. Ventrals like body, with yellowish shades in membranes.

9238 and 9240. Camp Overton, Mindanao. August 6, 1909. Length 260 to 560 mm. Drab brown, paler below with more lavender shade. Side of head and upper body with scattered small blue or purple spots, more evident in fading fish. Snout verruculate with purplish lines. Yellow shade through eye.

peduncle. Left pectoral pale, with some dark basal spots. Left ventral spotted with dusky. Right pectoral and ventral uniformly white. Right side whitish, vertical fins grayish, with dark spots rather obscured though showing through.

Diagnosis. In this species the coloration is unique, the large dark axillary blotches of the last dorsal and anal rays quite conspicuous and characteristic.

U. S. N. M., No.

, type.

14269 and 14620. Doc Can Island. January 7, 1910. Length 74 to 153 mm.

A1235. Yamomo Island. December 3, 1909. Length 205 mm.

A1640. Philippines. Length 217 mm.

6576 and 6577. Port Maricaban. July 21, 1908. Length 248 to 262 mm.

5038 to 5046. Silino Island. August 10, 1909. Length 109 to 200 mm.

A677. Sitaniki Reef. September 24, 1909. Length 200 mm.

11506, 11508, 11509, 21739. Sulada Island. September 17, 1909. Length 65 to 92 mm.

21359 and 21360. Limbe Strait, Celebes. November 11, 1909. Length 140 to 153 mm.

A1050. Tidore Island, south of Ternate. November 24, 1909. Length 255 mm.

2083. D.5117. Sombrero Island,  
S.  $17^{\circ}$  E., 10.80 miles (lat.  $13^{\circ}52'22''$   
N., long.  $120^{\circ}46'22''$  E.), Balayan  
Bay and Verde Island Passage.  
In 118 fathoms. January 21, 1908.  
Length 195 mm. Type.

2276

Genus Samaris Gray

Samaris Gray, Zool. Miscellany,  
p. 4, 1831. (Type Samaris  
cristatus Gray, monotypic.)

! Eyes on right side, close together.  
! Mouth narrow. Teeth small, equal,  
in narrow bands in jaws. Palate  
toothless. Gill membranes broadly  
united below throat. Gill rakers  
rudimentary. Scales of colored  
side strongly ctenoid, cycloid or  
moderately ctenoid on blind side.  
Lateral line straight, not arched  
over pectoral. Vertical fin rays  
simple. Dorsal begins on snout,  
first rays greatly extended filaments.  
Only right pectoral present. Right  
ventral with extended rays, longer  
and little in advance of left one.

Namaris cacatuae Ogilby

2277

Namaris cacatuae Ogilby, New Fisher  
Lancashire Coast, p. 130, Dec. 20, 1910  
(type locality: off Cape Gloucester, Queensland).

— Mc Culloch, Austral. Mus. Mem.,  
No. 5, pt. 2, p. 280, Sep. 10, 1929  
(reference).

2278

Samaris cristatus Gray

Samaris cristatus Gray, Zool.

Miscellany, p. 4, 1831 (type locality: China). — Günther, Cat. Fishes Brit.

Mus., vol. 4, p. 420, 1862 (type;

China Seas; China). — Bleeker,

Nederl. Tijds. Dierk., vol. 4, p. 130,

1873 (1874) (Canton). — Alcock,

Journ. Asiatic Soc. Bengal, vol.

58, pt. 2, no. 3, p. 291, pl. 17, fig.

4, 1889 (off east coast Ceylon, 34 fathoms),

vol. 65, pt. 1, p. 327, 1896 (Ceylon);

Illustrat. Zool. Investigator, pt. 5, pl. 23, fig. 2,

1898. — Weber and Beaufort,

Fishes Indo Austral. Archip.,

vol. 5, p. 138, fig. 34, 1929 (Java

Sea; Bali Strait). — Chu, Biol.

— Norman, Rec. Indian Mus., vol.

29, pt. 1, p. 44, April 1927 (off Colombo,

south of Ceylon, Ceylon, Andamans,

3 to 34 fathoms).

2279

Bull. St. John's Univ., no. 1, p. 92,  
Jan. 1931 (reference). — Chevey,  
Inst. Océanog. Indo Chine, 19<sup>e</sup>  
Note, p. 28, Aug. 25, 1932 (Poulo  
Condore).

Depth  $2\frac{2}{3}$  ; head 5, width 4.  
 Snout tip to lower <sup>orbit</sup> ~~eye~~ 4 in head  
 from snout tip; lower orbit  
 $3\frac{3}{5}$ , greater than snout,  $\frac{1}{4}$  in  
 advance of upper; maxillary  
 reaches  $\frac{1}{4}$  in lower orbit,  
 expansion 3; length ~~from snout tip~~  
~~2~~  $2\frac{3}{4}$  in head from snout tip;  
 interorbital narrow bony ridge.  
 Gill rakers  $4 + 9$ , short feeble  
 papillae like flaps, barely  $\frac{1}{5}$  of  
 gill rakers, which  $2\frac{2}{5}$  in  
 lower orbit.

Scales 48 in lateral line to  
 caudal base and 5 more on  
 latter; 20 above, 20 below.

Fins scaleless, except few scales  
 on caudal base. Muzzle and  
 maxillary scaleless. Scales with

5968. Little Santa Cruz Island. May  
26, 1908. Length 260 mm.

3887. Maculabo Island. June 14, 1909.  
Length 57 mm.

6200. Mansalay, Mindoro. June 4, 1908.  
Length 185 mm.

3899. Perongpong Island. June 11, 1909.  
Length 137 mm.

8017. Port Banalacan, Marinduque.  
February 23, 1909. Length 271 mm.

4783. Ininalasan Island, Masamut Bay.  
June 12, 1909. Length 130 mm.

1173. Port Binanga. January 9, 1908.  
Length 132 mm.

A565. Teomabal Island. September 18, 1909.  
Length 275 mm.

6653. Varadero Bay, Mindoro. July 23,  
1908. Length 283 mm.

A860. Limbe Strait, Celebes. November 10, 1909.  
Length 275 mm.

14 to 16 basal radiating striae;  
 15 or 16 apical denticles in single  
 row, uniform; circuli fine, more  
 or less complete. ~~Right~~ Left  
 scales cycloid. Lateral line axial,  
 only on right side.

D. 75, first 13 elongated or  $1\frac{1}{4}$   
 in combined head and body to  
 caudal base, or 4 times <sup>total</sup> head,  
 fin height otherwise  $1\frac{2}{5}$ . ~~least depth of caudal peduncle  $1\frac{3}{4}$~~   
 A. 55, fin height  $1\frac{1}{3}$ ; caudal  
 $4\frac{3}{5}$  in rest of fish; pectoral  
 $3\frac{2}{5}$ ; ventral  $3\frac{1}{8}$ .

~~Right~~ Right side drab to ecru  
 drab, mottled with darker shades  
 and rather scattered variable  
 dark brown spots and speckles.  
 Four more or less distinct blotches  
 on body above anal base and 5  
 along below dorsal base, with

559  
8095. Alirango Bay, Burias Island.  
March 5, 1909. Length 270 mm.

8323. Bagacay Bay, Escarpada Island.  
March 13, 1909. Length 159 mm.

996. Bubuon Island. February 14, 1908.  
Length 86 mm.

9143. Cabugan Island, Leyte. July 29, 1909.  
Length 253 mm.

7782 and 7783. Candaraman Island,  
Balabac. January 4, 1909. Length 170 to 203 mm.

5542. Cataingan, Masbate. April 17, 1908.  
Length 190 mm.

A 1516. Daisy Islet, west of Bumbum Island.  
January 6, 1909. Length 212 mm.

160, 7590, 7606. Endeavor Strait. December  
23, 1908. Length 148 to 202 mm.

416. Great Tobea Island. December 15, 1909.  
Length 120 mm.

190 and 191. Langa Point, Luzon. June  
24, 1909. Length 103 to 113 mm.

last of each at bases of last fin rays. Uppermost and lowermost anterior caudal ray with small dark brown spot. Orbits grayish. Anterior elongated dorsal rays pure white, each of longest with broad subbasal blackish brown bar. Rest of dorsal brownish with obscure dark spots basally and terminally, middle of fin pale. Anal like dorsal. Caudal with 4 or 5 irregular dark transverse bars, also each ray with obscure whitish spots. Paired fins with brown spots on rays, pectoral grayish terminally and as about 5 dark brown bars on longest ventral rays.

in young along soft dorsal base and over front of caudal peduncle, inserted vertically by pale bar or ill-defined band just before caudal peduncle and extending into bases of both soft dorsal and soft anal posteriorly; with age pale band disappears and <sup>dark</sup> crescent becomes perfected. From base of spinous dorsal and lower edge of dark crescent on soft dorsal <sup>about 18 or 19</sup> dark line extends down, following <sup>within</sup> from each lower and posterior edge of exposed body scales till little below level of pectoral. Iris dark brown. Edges of soft dorsal and soft anal pale, former with median rather obscure longitudinal brown line and parallel diffuse brown band little below middle. Caudal edge whitish and submarginal brown band, in front with slightly darker bordering line. Paired fins pale.

Red Sea, Zanzibar, Mauritius, East Indies, Polynesia, Hawaii. This is the largest of the genus, reaching upwards of 300 mm. We exclude Chaetodon oxycephalus Bleeker, by which author it was united as a variety of the present species.

Left side whitish, fins all  
grayish to pale brownish terminally,  
spots only showing obscurely.

India, Ceylon, Andamans,  
East Indies, Indo China, China.

557

Depth  $1\frac{1}{2}$  to  $1\frac{3}{4}$ ; head  $2\frac{3}{5}$  to  $2\frac{3}{4}$ , width  $2\frac{1}{5}$  to  $2\frac{1}{4}$ . Snout  $2\frac{1}{8}$  to  $2\frac{3}{4}$  in head from snout tip; eye  $3\frac{1}{5}$  to  $5\frac{1}{5}$ ,  $1\frac{1}{8}$  to  $2\frac{1}{3}$  in snout, slightly greater than interorbital in young to  $1\frac{1}{2}$  with age; maxillary  $\frac{3}{5}$  to  $\frac{3}{4}$  in snout,  $3\frac{1}{5}$  to  $3\frac{1}{3}$  in head; interorbital  $3\frac{1}{5}$  to 4, broadly convex. Gill rakers 3 + 12, short points,  $\frac{1}{6}$  of gill filaments, which equal eye.

Scales 26 or 27 between gill opening and caudal base; tubes 19 to 26 in lateral line; 6 or 7 scales above lateral line, 15 or 16 below. Scales with 8 to 24 basal striae, largely marginal with age; apical denticles 75 to 320, basal elements in 1 to 16 transverse series circuli very fine.

D. XII, 25,  $\underline{\underline{I}}$  to 28,  $\underline{\underline{I}}$ , last spine  $1\frac{2}{3}$  to  $2\frac{1}{8}$  in total head length, fifteenth ray  $1\frac{2}{5}$  to  $1\frac{3}{4}$ ; A. III, 20,  $\underline{\underline{I}}$  or 21,  $\underline{\underline{I}}$ , third spine  $1\frac{7}{8}$  to  $2\frac{1}{2}$ , thirteenth ray  $1\frac{3}{5}$  to  $1\frac{4}{5}$ . Least depth of caudal peduncle  $3\frac{1}{8}$  to  $3\frac{1}{5}$ ; caudal with hind edge slightly convex,  $1\frac{1}{2}$  to  $1\frac{3}{5}$ ; pectoral  $1\frac{2}{5}$  to  $1\frac{3}{4}$ ; ventral  $1\frac{1}{4}$  to  $1\frac{3}{4}$ .

Dull brownish generally, lighter below. Broad blackish-brown ocular band, from middle of predorsal and interorbital, down to eye which equal in width, narrowing below down over cheek; with age off interorbital juncture forms leaving pale spot over eye medially and band much broader, extending over front of opercle. Blackish-brown crescent forms

D. 5641. Kalono Point (W.), N. <sup>2284</sup>

61° W., 3.4 miles (lat. 4° 29' 24" S.,  
long. 122° 52' 30" E.), Buton Strait.  
In 39 fathoms. December 14, 1909.  
Length 68 mm.

4600 [1744]. D. 5480. Tacbac  
Point (Leyte), S. 87° W., 17.3  
miles (lat. 10° 44' 36" N., long.  
125° 19' E.), between Samar and  
Leyte. In 62 fathoms. July 29,  
1909. Length 105 mm.

30569 and 30644 U.S.N.M. New Guinea. Australian Museum. Length 152 to 172 mm. 2 examples.

51087 U.S.N.M. Hawaii. Bureau of Fisheries. Length 170 mm.

42347 U.S.N.M. Apia, Samoa. Bureau of Fisheries. Length 73 to 205 mm. 12 examples.

55104 U.S.N.M. Honolulu. Albatross Collection. Length 40 to 155 mm. 7 examples.

55344 U.S.N.M. Honolulu. November 1896. Length 138 to 157 mm. 5 examples.

55331 U.S.N.M. Honolulu reef. Albatross Collection. Length 108 mm.

55536 U.S.N.M. Kailua, Hawaii. Albatross Collection. Length 110 to 150 mm. 7 examples.

55924 U.S.N.M. Zamboanga, Philippines. Bureau of Fisheries. Length 218 mm. [4120.]

65468 U.S.N.M. Mangareva. Albatross Collection. Length 80 to 106 mm. 10 examples.

Samaris macrolepis Norman

Samaris macrolepis Norman, Rec.

Indian Mus., vol. 29, pt. 1, p. 45, pl.  
6, April 1927 (type locality: Gulf  
of Martaban).

2286

Genus Samariscus Gilbert

Samariscus Gilbert, Bull. U. S. Fish Comm., vol. 23, pt. 2, p. 682, 1903 (1905).  
(Type Samariscus corallinus Gilbert, monotypic.)

Eyes on right side, close together or separated by narrow scaly interspace. Mouth narrow. Teeth small, in bands in jaws. Palate toothless. Gill membranes broadly united below throat. Gill rakers rudimentary. Scales ctenoid on both sides of body. Fins scaleless. Lateral line straight, without abrupt arch above pectoral. Dorsal and anal rays simple, caudal rays branched. Dorsal begins on snout, none of rays greatly extended, although may appear somewhat longer and more distantly placed than those following. Right pectoral only developed. Right ventral longer than left, without extended rays.

2287

Samariscus corallinus Gilbert

Samariscus corallinus Gilbert, Bull.  
U. S. Fish Comm., vol. 23, pt. 2, p. 682, pl.  
96, 1903 (1905) (type locality: off  
south coast of Molokai, 43 to 47 fathoms).

Samaris corallinus Fowler, Mem. Bishop  
Mus., vol. 10, p. 93, 1928 (Hawaiian  
Islands).

2288

Samariscus huyssmani Weber

Samariscus huyssmani Weber, Siboga  
Exped., vol. 57, p. 420, pl. 6, fig. 3, 1913  
(type locality: lat.  $6^{\circ} 36' 55''$  S., long.  $114^{\circ}$   
 $55' 5''$  E., Java Sea, 88 meters). —

Horman, Rec. Indian Mus., vol. 29,  
pt. 1, p. 47, April 1927 (Gulf of  
Martaban, 61 fathoms). — Weber  
and Beaufort, Fishes Indo Austral.  
Archip., vol. 5, p. 142, fig. 35, 1929  
(type).

Depth  $2\frac{2}{5}$  to  $2\frac{3}{4}$ ; head 4 to  $4\frac{4}{5}$ ,  
width  $3\frac{3}{4}$  to 4. Snout<sup>tip</sup> to lower  
orbit 4 to  $4\frac{1}{5}$  in head from snout  
tip; lower orbit  $3\frac{1}{5}$  to  $3\frac{7}{8}$ , greater  
than snout,  $\frac{1}{5}$  in advance of upper  
orbit; maxillary reaches opposite  
front edge of lower orbit, length  
 $1\frac{4}{5}$  to  $1\frac{7}{8}$  in head from snout tip;  
interorbital narrow, with slight  
ridge, width  $2\frac{1}{2}$  to 3 in lower eye.  
Gill rakers 1 + 6 short points,  $\frac{1}{3}$   
of gill filaments, which  $1\frac{4}{5}$  in lower  
orbit.

Samariscus inornatus (Lloyd) <sup>2289</sup>

Samaris inornatus Lloyd, Mem.  
Indian Mus., vol. 2, p. 160, pl. 47,  
fig. 7 to 7a, 1909 (type locality:  
Arabian Sea, 136 fathoms).

Samariscus inornatus Norman, Rec.  
Indian Mus., vol. 29, pt. 1, p. 46,  
April 1927 (types).

Samariscus luzonensis new species

Depth  $2\frac{2}{3}$ ; head 5, width  $3\frac{1}{2}$ .  
Snout to lower orbit  $4\frac{1}{2}$  in head from snout tip; lower orbit  $3\frac{1}{8}$ , greater than snout,  $\frac{1}{5}$  in advance of upper orbit; maxillary reaches opposite front edge of lower orbit, its lower edge level with lower orbit, length  $3\frac{3}{4}$  in head from snout tip; mandible  $2\frac{1}{6}$ ; interorbital narrow, with slight median ridge, width  $2\frac{1}{2}$  in lower orbit. Gill rakers 1 + 4 groups of short feeble spinescent points, barely  $\frac{2}{5}$  of gill filaments, which  $3\frac{1}{2}$  in lower orbit.

594

Depth  $1\frac{4}{5}$  to  $2\frac{1}{8}$ ; head 3 to  $3\frac{1}{2}$ , width  $1\frac{3}{4}$  to  $1\frac{7}{8}$ . Snout 3 to  $3\frac{1}{4}$  in head; eye  $2\frac{4}{5}$  to  $3\frac{2}{3}$ , slightly longer than snout to equal with age,  $1\frac{1}{10}$  to  $1\frac{1}{5}$  in interorbital; maxillary  $\frac{1}{2}$  to  $\frac{3}{5}$  in snout, 4 to  $4\frac{1}{4}$  in head; interorbital  $2\frac{3}{4}$  to 3, broadly convex. Gill rakers 6 + 20, short points,  $\frac{1}{8}$  of gill filaments, which  $1\frac{1}{4}$  in eye.

Scales 34 or 35 between gill opening and caudal base; tubes 21 or 22 in lateral line; 8 scales above lateral line, 10 or 11 below. Scales with 8 to 12 basal radiating striae; apical denticles 83 to 100, with 4 to 9 transverse series of basal elements; circuli very fine.

D. XIV, 15, I or 16, I, last spine  $1\frac{3}{5}$  to 2 in head, fifth ray  $1\frac{1}{8}$  to  $1\frac{1}{10}$ ; <sup>a little more</sup> A. IV, 15, I or 16, I, fourth spine  $1\frac{2}{5}$  to  $1\frac{4}{5}$ , seventh ray  $1\frac{1}{4}$  to  $1\frac{2}{5}$ ; least depth of caudal peduncle  $2\frac{2}{3}$  to 3; caudal truncate or

Scales 50 ~~xxxxxx~~ in lateral line to caudal base and 5 more on latter; 16 above, 19 below.

Snout and muzzle largely naked. Dorsal and anal scaleless, caudal with fine scales basally. Scales with 6 rather wide set divergent basal radiating striae; 16 to 18 moderate more or less uniform apical denticles, with 1 or 2 series of small basal ones; circuli fine, continuous. Left scales also ctenoid.

D. 68, fin height  $1\frac{2}{5}$  in total head length; A. 54, fin height  $1\frac{1}{4}$ ; least depth of caudal peduncle  $1\frac{4}{5}$ ; ventral  $1\frac{1}{4}$ ; caudal 3 in rest of fish; pectoral  $3\frac{2}{5}$ .

Right side drab, marked with many obscure variable small dark rings. About 6 pairs of

anal line. Caudal largely blackish-brown, upper and lower edges narrowly pale, hind edge narrowly white, then narrow blackish submarginal line and broad pale brownish band against dark color. Paired fins pale.

Red Sea, Zanzibar, Mauritius, East Indies, Micronesia, Polynesia. A rather oblong species, easily known by the presence of 4 anal spines and the dark ribbed color pattern of broad angled v-shaped marks on the side, all directed forward. We have not found any example with 5 anal spines as mentioned by Valenciennes and Bleeker.

2292

larger more distinct or darker  
rings submarginally on body,  
with last pair below axils  
or last dorsal and anal rays.  
Orbits gray. Fins all dull drab  
with many fine darker dots and  
dorsal and anal each with row  
sub<sup>b</sup>basally of rather large dark  
blotches. Pectoral brownish, with  
<sup>5 or 6</sup> neutral black bars.

Diagnosis. Apparently most  
closely related to Samariscus  
inornatus (Lloyd), but differing  
from that species in coloration  
and various proportions. Its head  
smaller than in Lloyd's species,  
the caudal longer, lower orbit  
advanced, body more slender,  
also the scale structure different.

U. S. N. M., 40.

595

hind edge very slightly double concave,  
 $1\frac{1}{4}$  to  $1\frac{2}{5}$ ; pectoral  $1\frac{1}{5}$  to  $1\frac{1}{4}$ ; ventral  
 $1\frac{1}{8}$  to  $1\frac{1}{3}$ .

Back brown, with slight olive tinge,  
lower surface paler to whitish. On  
middle of side, little above median  
axis, two elongate or horizontal  
pale blotches, first about long as  
head and second little shorter.  
About 20 oblique dusky lines on side  
of body, following medianly in rows  
of scales, on back obliquely forward  
till near median axis when all turn  
obliquely downward posteriorly. Broad  
blackish brown band from predorsal,  
occasionally meeting its fellow, includes  
eye and down over cheek to chest; both  
front and hind edges with white border-  
ing line. Soft dorsal and anal with  
narrow pale edges and blackish submarg-

D.5442. San Fernando Point Light,  
N. 39° E., 8.4 miles (lat.  $16^{\circ}30'36''$   
N., long.  $120^{\circ}11'06''$  E.), west coast  
of Luzon. In 45 fathoms. May 10,  
1909. Length ~~84~~ 76 mm. ~~Two~~  
~~specimens~~. Type.

vol. 5<sup>1st</sup> 4, 1910, p. 283 (Sandakan, North  
Borneo). — Snyder, Proc. U. S. Nat. Mus.,  
vol. 42, 1912, p. 510 (Okinawa). — Fowler  
and Bean, Proc. U. S. Nat. Mus., vol. 62,  
1922, p. 57 (Cebu).

Acanthurus blochii (non Bennett 1835)

Valenciennes, Hist. Nat. Poiss., vol. 10, 1835,  
p. <sup>209</sup>~~207~~ <sup>153</sup>. Mauritius and Seychelles, — Guichenot,  
(on ~~Plate 203~~ Bloch Plate 203)  
Mem. Soc. Cherbourg, tome 2, ser. 2, 1866, p. 146  
(Madagascar). — Günther, Journ. Mus.  
Godeffroy, band 4, 1875, p. 109, plate 69, fig. B  
(Red Sea, East Africa, India, North Australia,  
Carolines, Society Islands, Samoa, Peleu-  
Islands, Kingman Reef). — Beaufort, Bijdr.  
dierk. Amsterdam, deel 19, 1913, p. 125  
(Amboina). — Weber, Siboga Exped.,  
band 65, 1913, p. 316 (Celebes, Siau, Rotti).

Acanthurus annularis Valenciennes, Hist.

Nat. Poiss., tome 10, 1835, p. 209. Mauritius. —  
Guichenot, Notes J. Rennion, tome 2, 1862, p. 27.

2294

Tamaviscus macrognathus new species

Depth  $2\frac{1}{5}$ ; head  $3\frac{4}{5}$ , width  $3\frac{4}{5}$ . Snout tip to lower orbit  $3\frac{1}{2}$  in head from snout tip; lower orbit  $3\frac{1}{2}$ , long as snout,  $\frac{1}{8}$  in advance of upper orbit; maxillary reaches  $\frac{1}{5}$  in lower orbit, and below for space equal to vertical diameter of orbit, expansion 2 in horizontal diameter of lower orbit, length  $1\frac{3}{4}$  in head from snout tip; mandible  $1\frac{3}{5}$ ; interorbital narrow, with slight median ridge, width  $2\frac{1}{5}$  in lower orbit. Gill rakers 1 + 7 short points,  $\frac{1}{3}$  of gill filaments, which  $1\frac{4}{5}$  in lower orbit.

Scales 60 in lateral line to caudal base and 8 more on

5/3

Chaetodon leachi Kaup, Arch. Naturges.,  
Band 26, abth. 1, 1860, p. 149.

Megaprotodon leachii Günther,  
Rev. Zool., 1848, p. 12.

Coradion melanopus (non Cuvier) Blocker,  
Atlas Ichth. Ind. Néerl., vol. 9, 1877, plate  
(13) 375, fig. 1 (nm 4).

latter; 17 above, 18 below.

Muzzle naked. Dorsal and anal naked, caudal scaled basally. Scales with 6 or 7 well divergent basal radiating striae; 14 or 15 slender apical denticles, with 1 or 2 ~~small~~ transverse series of small basal ones; circuli fine, continuous. Left scales more or less smooth.

D. 67, fin height  $1\frac{2}{5}$  in total head length; A. 51, fin height  $1\frac{1}{5}$ ; caudal 1, rounded behind; least depth of caudal peduncle  $1\frac{3}{4}$ ; pectoral  $2\frac{1}{4}$  in combined length ~~and~~ of head and body to caudal base, ~~ventral 1  $\frac{1}{3}$ ; ~~the~~~~

Right side drab brown, marked

Body oblong, compressed. Head large. Snout moderate to long and pointed. Maxillary concave. Preorbital deep. Palate toothless. Scales rather large, finely ctenoid. Cheeks and upper surface of head scaleless. Tubes in lateral line simple. Dorsal spines 10, rays 8. Anal spines 3, rays 8.

A large genus with more or less homogeneous species, many imperfectly described and this added to the subtle differential characters often render them difficult of determination. Variation with age is often extensive, the lateral conic teeth of the young becoming large or molar like with age.

with 5 pairs of large dark rings submarginally, last pair below axillary or last rays of dorsal and anal. Also innumerable small variable and less distinct dark rings scattered all about. Vertical fins drab like body, also with smaller dark rings and row of larger subbasal rings along dorsal and anal. Orbits gray. Pectoral largely neutral black. Left side whitish, vertical fins grayish, dark subbasal larger rings on dorsal and anal showing through.

~~Heretofore only known from the two types obtained in the Arabian Sea. Compared with Lloyd's figure my specimen shows a greatly longer pectoral, distinct rings and ocelli~~

Genus Lethrinus Cuvier Cuv 30

Lethrinus Cuvier, Règne Animal, ed. 2, vol. 2, 1829, p. 184. Type Sparus choerorhynchus Schneider, designated by Jordan and Thompson, Proc. U. S. Nat. Mus., vol. 41, 1912, p. 558.

Schour Forskål, Descript. Animal., 1775, p. 45 (52). Atypic. Type Sciaena nebulosa Forskål, assumed by vernacular schaur. (Inadmissible.)

Maina Gistel, Naturges. Thierreich, 1848, p. <sup>s.c.</sup> IX. Type Sparus choerorhynchus Schneider. Maina Gistel proposed to replace Lethrinus Cuvier, regarded preoccupied by Lethrus Fabricius 17. in coleoptera.

Lethrinella Fowler, Journ. Acad. Nat. Sci. Philadelphia, series 2, vol. 12, 1904, p. 529.

Type Sparus miniatus Schneider, orthotypic.

Lethrinichthys Jordan and Thompson, Proc. U. S. Nat. Mus., vol. 41, 1912, p. 558. Type Lethrinus nematacanthus Bleeker, orthotypic.

Diagnosis. Closely related to Lampris normatus (Lloyd) from the Arabian Sea. It differs, however, in the greatly larger mouth, larger maxillary, larger mandible, the greatly larger pectoral and in the coloration <sup>in</sup> which ~~represented~~ the dark markings are all as rings and not as blotches or spots.

U. S. N. M., No. , type.

D. 5442. San Fernando Point Light, N. 39° E., 8.4 miles (lat. 16° 30' 36" N., long. 120° 11' 06" E.), west coast of Luzon. In 45 fathoms. May 10, 1909. Length 54 mm. Type.

Ventrals thoracic, with spine and 5 rays.

Tropical shore fishes, greatly suggestive of the Lutjanidae and Pomacentridae, but the head naked. All but one species in the Indo Pacific.

Analysis of the genera <sup>6 species</sup>  
a. Lethrininae. Palate edentulous. Lethrinus.  
a. Neolethrininae. Whole roof of mouth and  
 palate covered with small molar teeth.  
Neolethrinus.

- Case 13  
 Name only

10-6-43

Pages 2290 through 2297  
either misnumbered or missing.

E. M. Wade

Samariscus maculatus (Günther)

Samaris maculatus Günther, Rep.

Voy. Challenger, vol. 1, pt. 6, p. 47,  
pl. 21, fig. A, 1880 (type locality;  
Ki Islands, 129 fathoms); vol.  
22, p. 162, 1887 (Ki Islands, 140  
fathoms). — Regan,  
F. M. A., 277, 1902

Trans. Linn. Soc. London, ser. 2, vol.  
12, Zool., pt. 3, p. 232, 1908 (Suvadiva,  
Maldives).

Samariscus maculatus Norman, Rec.

Indian Mus., vol. 29, pt. 1, p. 47,  
April 1927 (Maldives). — Weber and  
Beaufort, Fishes Indo Austral. Archip.,  
vol. 5, p. 141, 1929 (type).

2299

Samariscus longimanus Horman

Samariscus longimanus Horman, Rec.  
Indian Mus., vol. 29, pt. 1, p. 46, pl. 7,  
April 1927 (type locality: west of  
Ceylon, 102 to 105 fathoms).

Samariscus sunieri Weber and Beaufort,  
Fishes Indo Austral. Archip., vol. 5,  
p. 141, 1929 (type locality: Nikolas  
Bay, Bali; north of Bali; 108 to 252  
meters).

Samaris sumieri Weber and Beaufort

Samaris sumieri Weber and Beaufort,  
Fishes Indo Austral. Archip., vol. 5,  
p. 141, 1929

Depth  $2\frac{7}{8}$  to 3; head  $3\frac{3}{5}$  to  $3\frac{4}{5}$ , width  $3\frac{4}{5}$  to 4. Snout to lower orbit  $4\frac{1}{3}$  to  $4\frac{4}{5}$  in head from snout tip; lower orbit  $2\frac{2}{3}$  to  $3\frac{1}{8}$ , greatly exceeds snout, opposite or advanced  $\frac{1}{5}$  from upper orbit; maxillary reaches  $\frac{1}{5}$  to  $\frac{1}{4}$  below lower orbit, expansion 3 to  $3\frac{3}{4}$  in lower orbit, length  $2\frac{2}{3}$  to  $2\frac{7}{8}$  in head from snout tip; innerorbital narrow bony keel. Gill rakers 1 + 7 short & feeble rudimentary points,  $\frac{2}{5}$  of gill filaments, which  $\frac{1}{3}$  of lower orbit.

Scales 60 to 64 in lateral line to caudal base and 4 or 5 more on latter; 18 above, 19 below. Caudal base scaly, fins otherwise naked. Scales with 9 to 11 basal radiating striae, edge scalloped; 13 to 15 slender apical denticles, with 3 transverse series of basal elements; circuli fine. Lateral line axial, only on right side.

D. 67 to 70, fin height  $1\frac{1}{2}$  to 2

in total head length; A. 53 to 55,  
 fin height  $1\frac{2}{3}$  to  $1\frac{7}{8}$ ; least depth  
 of caudal peduncle  $1\frac{7}{8}$  to 2;  
 ventral  $1\frac{1}{2}$  to 2; caudal  $3\frac{1}{3}$  to  $3\frac{7}{8}$   
 in combined head and body to caudal  
 base; pectoral  $2\frac{1}{4}$  to  $3\frac{3}{5}$ .

Light brown on right side,  
 with 5 blackish brown blotches  
 along upper edge of body below  
 dorsal base and 4 <sup>along</sup> ~~on~~ lower  
 edge of body above anal base.

Obscure or paler blotches may also  
 be present along axial region of  
 body. Orbits dark gray or slate.  
 Vertical fins pale or whitish,  
 with dark or brown speck on  
 rays, mostly terminal. Pectoral  
 variously spotted with dark brown,  
 sometimes largely neutral black.

Ceylon, East Indies, Philippines.  
Xanhariscus sumieri Weber and  
 Beaufort appears to be synonymous.

Lepidoblepharon ophthalmolepis Weber

Lepidoblepharon ophthalmolepis Weber,  
Siboga Exped., vol. 57, p. 422, pl. 6, fig. 7, 1913.  
(type locality: Arafura Sea - at Kei Islands,  
310 meters).

4170, 4174. D. 5411. Lavis Point  
Light, N.  $35^{\circ}$  E., 4.7 miles (lat.  $10^{\circ}10'30''$  N., long.  $123^{\circ}51'15''$  E.), between  
Cebu and Bohol. In 145 fathoms.  
March 23, 1909. Length 9.8 mm.  
2 examples.

1 example, [1436.] D. 5412. Lavis  
Point Light, N.  $21^{\circ}$  E., 5.5 miles  
(lat.  $10^{\circ}09'15''$  N., long.  $123^{\circ}52'$  E.),  
between Cebu and Bohol. In 162  
fathoms. Length 124 mm.  
March 23, 1909.

3331, 3333, 3334. D. 5418. Lavis  
Point Light, N.  $10^{\circ}$  E., 3.5 miles (lat.  
 $10^{\circ}10'$  N., long.  $123^{\circ}53'15''$  E.), between  
Cebu and Bohol, In ~~145~~ 159 fathoms.  
March 25, 1909. Length 83 to 123 mm.

2064. D. 5519. Point Tagolo Light,  
S.  $71^{\circ}$  W., 8.7 miles (lat.  $8^{\circ}47'$  N., long.  
 $123^{\circ}31'15''$  E.), northern Mindanao.  
In 182 fathoms. August 9, 1909.  
Length 124 mm.

Genus Lepidoblepharon Weber

Lepidoblepharon Weber, Siboga Exped.,  
vol. 57, p. 421, 1913. (Type Lepidoblepharon  
ophthalmolepis Weber, monotypic.)

2086. D. 5117. Sombrero Island.  
S. 47° E., 10 miles (lat. 13° 48' 45" N.,  
120° 41' 51" E.), Balayan Bay and  
Verde Island Passage. In 159  
fathoms. January 21, 1908. Length  
105 mm.

2304

Samariscus fasciatus new species

Depth  $2 \frac{3}{4}$ ; head  $3 \frac{4}{5}$ , width  $3 \frac{3}{4}$ . Snout to lower orbit  $4 \frac{3}{4}$  in head from snout tip; lower orbit  $3 \frac{2}{5}$ , greater than snout,  $\frac{1}{8}$  in advance of upper orbit; maxillary reaches  $\frac{1}{4}$  in lower orbit, expansion  $\frac{1}{4}$ , length 3 in head from snout tip; interorbital narrow, scaly,  $\frac{2}{15}$  lower orbit. Gill rakers  $5 + 9$  low papilla like points,  $\frac{1}{4}$  of gill filaments, which 3 in lower orbit.

Scales 45 in lateral line to caudal base and 6 more on latter; 18 above, 23 below. Vertical fins scaleless, except <sup>scaly</sup> caudal base. Muzzle naked. Scales with 6 basal radiating striae; 8 to 11 rather long diverging apical denticles; circuli fine, continuous. Lateral line only on right side, axial and complete. Scales ctenoid on both sides of body.

Right side generally more brown to fawn brown, Broad deeper band occupies whole median third of body, nearly chocolate brown, with about 5 rounded paler areas of which posterior pair much largest. Some dark brown shades behind eyes and on postocular region of head. Paler areas of body with indistinct, <sup>still</sup> paler tinge, irregular or as ill defined light areas. Orbits gray brown. Dorsal and anal rays narrowly tipped whitish, submarginally blackish or neutral gray fading paler and all with scattered dark spots. Caudal similar only without dark basal spots. At last dorsal and

Cape of Good Hope). — Ahl, Arch. Naturges.,  
band 89, abth. A., heft 5, 1923, p. 167 (~~Neu-~~  
~~Gomerania~~, ~~Talassia~~, ~~New Guinea~~, Red Sea,  
Mauritius, Seychelles, New Hannover). —  
McCulloch, Records Austral. Mus., vol. 14,  
pt. 1, 1923, p. 4 (Whitsunday Island,  
Queensland). — Fowler, Bishop Mus. Bull.,  
no. 22, 1925, p. 27 (Honolulu).

Tetragonopterus (Oxychaetodon) lineolatus Bleeker,  
Atlas Ichth. Ind. Néerl., vol. 9, 1877, p. 51,  
plate (15) 377, fig. 2 (Locos, Sumbawa, Flores,  
~~Ternate~~, Amboina, Banda).

Chaetodon (Unisochaetodon) lineolatus Klunzinger,  
Fisch. Roth. Meer., 1884, 57.

Chaetodon lunatus (Ehrenberg) Cuvier, Hist. Nat.  
Poiss., vol. 7, 1831, p. <sup>57</sup>43. Red Sea. — Rüppell, Neue  
Wirbelth. Fische, 1839, p. 30, plate 9, fig. 3 (Oyidda).

~~Chaetodon oxycephalus Bleeker, Kat. Tijds. Ned. Indie,  
deel 4, 1853, p. <sup>(576)</sup>603. Ternate.~~

Chaetodon tallii Bleeker, Mon. deel 6, 1854, p. (90) 97. Neira,  
Kat. Tijds. Ned. Indie, <sup>Banda</sup>

anal rays basally, blackish brown blotch, extended on caudal peduncle and connected more or less across, posteriorly each hind fin edge narrowly whitish. Right ventral dark neutral gray, left one whitish. No left pectoral. Right pectoral gray, with 5 dark or blackish transverse bars and lower half of fin whitish.

Diagnosis. Evidently related to Samariscus inornatus in its deep body, though with unique undeveloped color pattern, especially the broad-dark median body band.

U. S. N. M., No.

, type.

555

Chaetodon lineolatus Cuvier.

Chaetodon lineolatus (Levy and Garniard) Cuvier,  
Hist. Nat. Poiss., vol. 7, 1831, p. 131. Mauritius.  
— Günther, Cat. Fish. Brit. Mus., vol. 2, 1860, p. 30  
(Red Sea). — Kaup, Arch. Naturges., band 26,  
abth. 1, 1860, p. 151 (Africa; Moluccas). — Playfair,  
Fishes of Zanzibar, 1865, p. 35 (Zanzibar). —  
Klunzinger, Verh. zool. bot. Ges. Wien, band 20,  
1870, p. 779 (Koseir, Red Sea). — Günther, Journ.  
Mus. Godeffroy, band 2-3, <sup>sheet</sup> 5-6, 1874, p. 45, plate  
34, fig. a (Pannotus, Society Islands, Samoa,  
Kingsmills, Hawaii). — Günther, Philos. Trans.  
Roy. Soc. London, vol. 168, 1879, p. 470 (Rodriguez).  
— Elera, Cat. Fauna Filip., vol. 1, 1895, p. 486  
(Mindoro). — Ishikawa and Matsuura, Prelim.  
Cat. Fish. Mus. Tokyo, 1897, p. 52. — Jordan, <sup>and Evermann</sup>,  
Proc. U. S. Nat. Mus., vol. 25, 1903, p. 357 (Hobart,  
Formosa). — Pellegrin, Ann. Mus. Zool. Napoli  
vol. 3, n. s., no. 27, 1912, p. 6 (Simon Bay,

1972 [684]. D. 5310. China Sea,  
vicinity of Hong Kong (lat.  $21^{\circ}33'N$ ,  
long.  $116^{\circ}13'E$ ). In 100 fathoms.  
November 4, 1908. Length 68 mm.  
Type.

11-6-43

Pages 2304 through 2307 either  
unnumbered or missing

G. M. Hale

2308

Genus Azygopus Norman

Azygopus Norman, Biol. Res.  
Endeavour, vol. 5, pt. 5, p. 261, June  
15, 1926. (Type Azygopus  
pinnifasciatus Norman,

No rostral hook. Eyes narrowly separated, upper rather close to dorsal profile. Mouth rather small, subsymmetrical. Teeth small, movable, pointed, in bands in jaws and almost entirely on blind side. Nasal organ of blind side nearer median line of head than that of ocular side, below origin of dorsal fin; olfactory laminae arranged in pinnate form, with fairly long median rachis which parallel to main axis of body. Upper angle of gill opening just above pectoral fin base. Gill rakers moderate, short. Lower pharyngeals moderately broad, curved, in contact anteriorly, each

with 3 or 4 irregular series of teeth. Scales rather small, imbricated, ctenoid on both sides of body, extending over dorsal surface of eyeballs. Low scaly sheath covers basal parts of dorsal and anal on ocular side. Lateral line with slight curve anteriorly, without accessory branches. Dorsal begins just before eyes and above nasal organ of blind side, rays not scaly. Anal like dorsal, without spine. Pectoral more developed on ocular side. Two ventrals, right with 10 or 11 rays, free from anal and left with 5 or 6 rays. Caudal convex.

One species.

22261. Tapanantana Island.

September 13, 1909. Length 84 mm.

14490. Tomahu Island. December 12, 1909. Length 62 mm.

22160. Tutu Bay, Jolo Island, First Anchorage. September 19, 1909. Length 59 mm.

7974. Tutu Bay. September 19, 1909. Length 88 mm.

467 and 4834. Buba Island, Gulf of Tomini, Celebes. November 20, 1909. Length 68 to 71 mm.

22304. Tidore Island, south of Ternate. November 29, 1909. Length 75 mm.

1 example. Dowarra Island. December 2, 1909. Length 90 mm.

21578. Dowarra Island. December 2, 1909. Length 56 mm.

Azygopus pinnifasciatus horman

Azygopus pinnifasciatus horman,  
Biol. Res. Endeavour, vol. 5, pt. 5,  
p. 262, fig. 10, June 15, 1926 (type  
locality: Great Australian Bight;  
Bass Strait; 60 to 450 fathoms).  
— McCulloch, Austral. Mus. Mem.,  
vol. 5, pt. 2, p. 280, Sep. 10, 1929  
(reference).

2311

Genus Pelotretis Waite

Pelotretis Waite, Trans. Proc. New Zealand Inst., 1910, pt. 2, p. 50.  
(Type Pelotretis flavilatus Waite, monotypic.)

No rostral hook. Eyes separated by low ridge, upper very close to dorsal profile. Mouth small, partly symmetrical. Teeth small, movable, pointed, in bands in jaws of blind side. Nasal organ of blind side almost on median line of head, just before dorsal fin origin; olfactory laminae in pinnate form, with long median rachis parallel to main axis of body. Upper angle of gill opening just above base of pectoral fin. Gill rakers few, short. Lower pharyngeals narrow, evenly curved, in contact anteriorly, each with 3 irregular series of conical teeth. Scales moderate, imbricated, ctenoid on both sides of body. Patch

2312

of small scales on dorsal surface of each eyeball. Most dorsal and anal rays scaly on both sides and low scaly sheath covers basal part of fin on eyed side. Lateral line with slight curve anteriorly, without accessory branches. Dorsal begins at level of front part of upper eye and just behind hind nostril of blind side, most rays bifid. Anal like dorsal, without spine. Caudal convex. Pectoral more developed on ocular side. Ventrals 4, right one with 7 rays and joined to anal, left with 5 or 6 rays.

One species.

21458 and 22825. Lanawan and Si<sup>779</sup>  
Amil Island. September 27, 1909.

Length 62 to 72 mm.

21848. Limbones Cove. February 8, 1909.

Length 85 mm. [1115]

8887. Mabul Island. September 29, 1909.

Length 82 mm.

3633. Maribojoc Bay, Bohol Island.

March 26, 1909. Length 82 mm.

3896. Apol, Mindanao. August 4, 1909.

Length 91 mm.

19069. Paluan Bay, Mindoro. December 11,

1908. Length 97 mm.

22250. Port Matalvi; Luzon. November

22, 1908. Length 80 mm.

10767. Sipadan Island. November 28,

1909. Length 75 mm.

14404 and 14405. Talisse Island. November

9, 1909. Length 82 to 95 mm.

Pelotretis flavilatus Waite

2313

Pelotretis flavilatus Waite, Proc.  
New Zealand Inst., 1910, pt. 2, p. 50.  
(type locality :  
Rec. Canterbury Mus., vol. 1, p. 212,  
pl. 41, 1911 ( )). —  
Horman, Biol. Res. Endeavour, vol.  
5, pt. 5, p. 265, June 15, 1926 (New  
Zealand; Chatham Islands).

2314

Genus Ammotretis Günther

Ammotretis Günther, Cat. Fishes  
Brit. Mus., vol. 4, p. 458, 1862. (Type  
Ammotretis rostratus Günther,  
monotypic.)

Colistium Norman, Biol. Res. Endeavour,  
vol. 5, pt. 5, p. 272, June 15, 1926. (Type  
Ammotretis nudipinnis Waite.)

... only, where  
in villiform band. No teeth on palate.  
Gill openings narrow. Gill membranes  
broadly united below throat. Gill  
rakers short, conical. Scales small,  
ctenoid. Lateral line straight. Dorsal  
and anal rays branched, scaly. Dorsal  
begins on end of snout and not  
continued to caudal. Ventrals 2, right  
one in same line and continuous with  
anal.

Australia and Tasmania.

2314

Genus Ammotretis Günther

Ammotretis Günther, Cat. Fishes  
Brit. Mus., vol. 4, p. 458, 1862. (Type  
Ammotretis rostratus Günther,  
monotypic.)

1/2 1/2 1/2! Eyes on right side, on same level or  
lower rather advanced. Mouth  
asymmetrical, narrower on right side  
than left. Left maxillary less than 3 in  
one or lead. Teeth on blind side only, where  
in villiform band. No teeth on palate.  
Gill openings narrow. Gill membranes  
broadly united below throat. Gill  
rakers short, conical. Scales small,  
ctenoid. Lateral line straight. Dorsal  
and anal rays branched, scaly. Dorsal  
begins on end of snout and not  
continued to caudal. Ventrals 2, right  
one in same line and continuous with  
anal.

Australia and Tasmania.

1 mm) 5. 1. 5. 2. 5. (51) max 4. 4. 1. 8. 8. 1.

Family Hepatidae.

Body oblong, compressed, often elevated  
Caudal peduncle armed with one or lead. Ye  
in villifo

monotypic

Eyes on  
lower ra

insymme  
had left

lead. Ye

in villifo

2315-

The following name, without  
figure or description, has been  
given.

Ammotretis ovalis Saville-Kent  
Ammotretis ovalis Saville-Kent,  
Great Barrier Reef, p. 370, 1893.  
(type locality; name only).

14489. Tomahu Island. December <sup>752</sup>  
12, 1909. Length 90 mm.

8674. Tutu Bay, Jolo Island,  
second anchorage. September 19, 1909.  
Length 86 mm.

21009. Limbe Strait, Celebes. November  
10, 1909. Length 84 mm.

22674. ~~Aluandata~~ <sup>Aluandata</sup> Bay, Gulf of  
Bonu, Celebes. December 18, 1909. Length  
79 mm.

4807. Gane Road, Gillolo Island.  
December 1, 1909. Length 73 mm.

12388. Hong Kong market, China. August  
13, 1908. Length 93 mm.

70751 U.S.N.M. Misaki, Sagami.  
Albatross Collection 1906. Length 13 to 16 mm.  
2 examples.

75506 U.S.N.M. Kafa, Okinawa. Albatross  
Collection. Length 23 to 43 mm. 4 examples.

2316

Ammotretis brevipinnis horman

Ammotretis brevipinnis horman,  
Biol. Res. Endeavour, vol. 5, pt. 5,  
p. 268, fig. 11, July 15, 1926 (type  
locality: St. Vincent Gulf, South  
Australia). — McCulloch, Austral.  
Mus. Mem., no. 5, pt. 2, p. 281, Sep. 10,  
1929 (reference).

2317

Ammotretis elongatus McCulloch

Ammotretis elongatus McCulloch,  
Biol. Res. Endeavour, vol. 2, pt. 3,  
p. 123, pl. 27, July 3, 1914 (type  
locality: Investigator Strait or area  
south of Kangaroo Island); Austral.  
Mus. Mem., no. 5, pt. 2, p. 281, Sep.  
10, 1929 (compiled).

{ Waite, Rec. South Austral. Mus., vol.  
2, p. 159, fig. 260, 1914 (  
Fishes of South Australia, p. 183, fig.  
1923. — Horman, Biol. Res. Endeavour,  
vol. 5, pt. 5, p. 271, June 15, 1926  
(South Australia). — McCulloch,

2318

Ammotretis guntheri Hutton

Ammotretis guntheri Hutton, Trans.  
New Zealand Inst., vol. 5, p. 267, pl. 11, <sup>fig. 82</sup>  
(1873) (type locality: Wellington Harbour).  
1872

— Waite, Rec. Canterbury Mus., vol. 1, p.  
26, 1907 (reference); p. 211, pl. 40.

Colistium guntheri Norman, Biol.  
Res. Endeavour, vol. 5, pt. 5, p. 274,  
June 15, 1926 (New Zealand).

2319

Ammotretis macrolepis McCulloch

Ammotretis macrolepis McCulloch,  
Biol. Res. Endeavour, vol. 5, pt. 3, p.  
125, fig. 9, July 3, 1914 (type locality:  
Flinders Island, Bass Strait),  
Mem. Austral. Mus., no. 5, pt. 2, p.  
281, Sep. 10, 1929 (reference). ~~1111~~

(— Horman, Biol. Res. Endeavour,  
vol. 5, pt. 5, p. 271, June 15, 1926  
(compiled). — McCulloch,

2320

Ammotretis nudipinnis Waite

Ammotretis nudipinnis Waite, Trans.  
Proc. New Zealand Inst., 1910, pt. 2,  
p. 50 (type locality):

Rec. Canterbury Mus., No. 1, p. 209, pl.  
39, 1911.

Colistium nudipinnis Norman, Biol.  
Res. Endeavour, vol. 5, pt. 5, p. 273,  
June 15, 1926 (New Zealand).

Ammotretis rostratus (not Günther)  
Hutton, Trans. Proc. New Zealand  
Inst., vol. 8, p. 215, 1876.

2321

Ammotretis rostratus Günther

Ammotretis rostratus Günther,  
Cat. Fishes Brit. Mus., vol. 4, p. 458,  
1862 (type locality: Norfolk Bay,  
Tasmania). — Steindachner, Sitzs.  
Ber. Akad. Wiss. Wien, math.-nat.  
Kl., vol. 80, pt. 1, p. 171, 1879 (1880).

— Macleay, Proc. Linn. Soc. New South  
Wales, vol. 6, p. 128, 1882 ( ).

— Waite, Mem. Austral. Mus., no. 4,  
p. 123, 1899. — Stead, Edible Fishes  
New South Wales, p. 103, pl. 70, 1908.

— Waite, Rec. Canterbury Mus., no. 1,  
p. 26, 1907 (name). — Mc Culloch,  
Biol. Res. Endeavour, vol. 2, p. 121, 1914.

— Waite, Rec. Canterbury Mus., vol. 2,  
p. 158, fig. 259, 1921 ( ).

— Mc Culloch, Austral. Zool., vol. 2,  
1921, p. 46, pl. 13. — Waite, Fishes of  
South Australia, p. 182, fig. 1923.

— Horman, Biol. Res. Endeavour, vol.  
5, pt. 5, p. 267, June 15, 1926 (type;

2322

Southern Western Australia; South  
Australia; Victoria; New South  
Wales). — McCulloch, Austral.  
Mus. Mem., 20.5, pt. 2, p. 280, Sep.  
10, 1929 (compiled).

2323

Rhombosolea tapirina (part)  
Günther, Cat. Fishes Brit. Mus.,  
vol. 4, p. 459, 1862.

Ammotretis rostratus var. adspersus  
Kner, Reise Novara, Fische, p. 289, pl.  
13, fig. 4, 1865 (type locality: Sydney).

Rhombosolea bassensis Castelnau, Proc.  
Zool. Acclim. Soc. Victoria, vol. 1, p.  
167, July 15, 1872 (type locality:  
Melbourne). — Macleay, Proc. Linn. Soc.  
New South Wales, vol. 6, p. 132, 1882.

[Solea uncinata Klunzinger, Sitzs.  
Ber. Akad. Wiss. Wien, Math.-Nat.  
Kl., vol. 80, pt. 1, p. 408, 1879 (1880).  
(type locality: King George's Sound).  
Peltorhamphus bassensis Waite, Rec.  
Austral. Mus., vol. 6<sup>pt. 3</sup>, 1906, p. 198, pl. 34.  
(Melbourne markets and Queenscliff).

2324

Ammotretis zonatus Macleay, Proc.  
Linn. Soc. New South Wales, vol. 7,  
pt. 3, p. 367, Oct. 28, 1882 (type  
locality: Port Jackson).

Ammotretis macleayi Ogilby, Proc.  
Linn. Soc. New South Wales, vol. 10,  
pt. 1, p. 122, June 4, 1885 (type  
locality: Port Jackson).

Ammotretis thompsoni (Kyle)

2325

Apsetta  
~~Ammotretis~~ thompsoni Kyle, Proc.  
Zool. Soc. London, 1900 (1901), p. 986  
(type locality: New Zealand).  
figs. 17<sup>3</sup>

→ Waite, Rec. Canterbury Mus., no. 1, p.  
27, 1907 (name).  
Ammotretis thompsoni

2326.

Ammotretes tudorei McCulloch

Ammotretes tudorei McCulloch, Biol.  
Res. Endeavour, vol. 2, pt. 2, p. 124,  
pl. 26, July 3, 1914 (type locality:  
Bass Strait, Spencer Gulf and  
Investigator Group). Austral.  
Mus. Mem., no. 5, pt. 2, p. 281,  
Sep. 10, 1929 (compiled).

— Waite, Rec. South Austral. Mus.,  
vol. 2, 1921, p. 159, fig. 261 ( );  
Fishes of South Australia, p. 183,  
fig., 1923. — Norman, Biol. Res.  
Endeavour, vol. 5, pt. 5, p. 270,  
June 15, 1926 (South Australia,  
Victoria, Tasmania). — McCulloch,

Chocolate or umber brown generally, ground tint more or less uniform.

Head and body with about 20 or more gray blue longitudinal lines, of which about 10 cross head; these lines all variable and mostly faded from trunk and tail. Iris brown, with light olive gray to yellowish tints. Fins all more or less dusky, soft dorsal and anal with traces of 6 or 7 darker longitudinal lines. Pectoral dark olivaceous and ventral dusky, with grayish. Hind edge of opercle narrowly dusky. Pale blue line along dorsal base and dusky brown line along edge of back.

Red Sea, India, Ceylon, East Indies,  
Philippines, Polynesia.

2327

~~Ammotretis liturata (Richardson)~~

? Solea liturata Richardson, Trans.  
Zool. Soc. London, vol. 3, pt. 2, p. 156,  
1843 (type locality: no locality:  
Hempriere [= Tasmania]).

Ammotretis liturata McCulloch,  
Austral. Mus. Mem., no. 5, pt. 2, p.  
281, Sep. 10, 1929 (reference).

2328

Genus Peltorhamphus Günther

Peltorhamphus Günther, Cat.

Fishes Brit. Mus., vol. 4, p. 461,  
1862. (Type Peltorhamphus noval-  
zeelandiae Günther, monotypic.)

Rostral hook somewhat flattened,  
connected with head by  
membranous flap which  
nearly or quite conceals mouth  
on ocular side. Lower lip of  
ocular side entire. Teeth  
slender, pointed, 3 or 4 series  
in blind side of each jaw.  
Basal organs symmetrical;  
olfactory laminae parallel to  
one another and main axis of  
body; no central rachis.  
Gill rakers moderate, small,

Body uniform largely or dark chocolate brown, becoming dusky to blackish on vertical fins and ventrals. Head with rather obscure small grayish spots or dots. Body with numerous, fine, longitudinal, slightly waved grayish or light blue lines. Pectoral olivaceous brown. Iris brownish.

Red Sea, Zanzibar, Natal, Madagascar, Mauritius, Rodriguez, Ceylon, Andamans, East Indies, Philippines, Japan, Melanesia, Micronesia, Polynesia, Hawaii. A very abundant species, readily known by its fine, slender, teeth.

conical. Lower pharyngeals rather narrow, scarcely expanded posteriorly, in contact anteriorly, each with several series of pointed teeth. Scales of ocular side ctenoid, of blind side ctenoid or cycloid. Low scaly sheath covers basal parts of dorsal and anal on eyed side. Lateral line with slight curve anteriorly, without accessory branches. Dorsal rays 94 to 104, front ones partly free but not serrated, remainder bifid and naked. Anal rays 60 to 70, like dorsal, without spine. Second upper ray of right pectoral

below and form a median blue line  
on the chest and breast.

According to Bleeker it would reach  
500 mm. but none of our examples are  
so large.

2330  
prolonged into filament.

Right ventral with 6 rays,  
left with 4 or 5.

One species.

761

sixth slightly widest. Each scale on body with <sup>dark</sup> round blue spot. Pale or bluish transverse band from ~~the~~ close before dorsal down to hind eye edge and variably as low as base of preopercle spine. On head and chest dark blue spots few and scattered, though traces of many smaller, pale blue ones. Iris brown. Edges of vertical fins all narrowly blue with dark submarginal line; soft fins all closely spotted with blue. Paired dark or dusky-brown, inner ventral rays paler.

East Indian region, previously only known from <sup>a few of the</sup> East Indies, <sup>Queensland</sup> and Singapore. Variably the coloration changes with age. Our small examples show the white band on the head extended below on the side of the breast, sometimes nearly to the ventral origin <sup>where they meet</sup>. Also sometimes 2 or 3 transverse blue lines from last dorsal rays down over caudal peduncle to last anal rays. The smallest examples also have 2 transverse blue lines on the caudal basally followed by a single blue spot posteriorly. They also have but few blue spots on soft dorsal and anal, though in addition a blue median frontal line and 2 blue lines in the muzzle, one from front of eye and the other from the maxillary. These lines may all meet

2331

Peltorhampus novae-zeelandiae Günther

Peltorhampus novae-zeelandiae  
Günther, Cat. Fishes Brit. Mus., vol.  
4, p. 461, 1862 (type locality: New  
Zealand; Norfolk Island). — Waite,  
Rec. Canterbury Mus., vol. 1, p. 27,  
1907 (name); p. 213, pl. 42.

— Horman, Biol. Res. Endeavour, vol.  
5, pt. 5, p. 276, June 15, 1926 (types;  
New Zealand; Norfolk Island;  
Chatham Islands).

2332

Genus Rhombosolea Günther

Rhombosolea Günther, Cat. Fishes  
Brit. Mus., vol. 4, p. (401) 458,  
1862. (Type Rhombosolea monopus  
Günther, designated by Jordan,  
Genera of Fishes, pt. 2, p. 319,  
1919.)

Bowenia Haast, Trans. <sup>Proc.</sup> Zool. Soc.  
New Zealand Inst., vol. 5, p. 278<sup>6</sup>,  
<sup>1872</sup> (1873). (Type Bowenia novae-  
zelandiae Haast, monotypic.)

Apsetta Kyle, Proc. Zool. Soc.  
London, 1906, pt. 4, p. 986 (April 1,  
1901). (Type Apsetta thompsoni  
Kyle, monotypic.)

Depth  $1 \frac{3}{4}$  to 2; head  $2 \frac{7}{8}$  to  $3 \frac{1}{2}$ , width  $1 \frac{7}{8}$  to 2. Snout  $1 \frac{1}{3}$  to  $1 \frac{3}{5}$ ; eye 3 to  $4 \frac{2}{5}$ ,  $1 \frac{3}{4}$  to  $3 \frac{1}{8}$  in snout, little greater than interorbital in young to  $1 \frac{4}{5}$  in adult; teeth 44 to 48 rows in jaws; maxillary  $3 \frac{1}{8}$  to  $3 \frac{1}{4}$  in head; interorbital  $2 \frac{7}{8}$  to 3, convexly elevated; opercle and humeral arch with rather fine striae. Gill rakers  $9 + 16$ , short, slender points, often clavate.

Scales discoid, narrowly imbricate, circuli very minute; apical denticles 44 to 48, with 5 to 13 transverse series usually developed as distinct cusps.

D. IX, rarely VIII, 27, ~~for~~ 28, 1, last spine  $1 \frac{7}{8}$  to 2 in head, sixteenth ray  $1 \frac{1}{6}$  to  $1 \frac{1}{3}$ ; A. 21, 1 to 25, 1, third spine  $2 \frac{1}{8}$  to  $2 \frac{2}{5}$ , nineteenth ray  $1 \frac{1}{3}$  to  $1 \frac{2}{5}$ ; caudal deeply emarginate to lunate, lobes sharply pointed though only moderately extended, 3 to  $3 \frac{3}{4}$  in combined head and body; least depth of caudal peduncle  $2 \frac{1}{5}$  to  $2 \frac{4}{5}$  in head; pectoral  $2 \frac{3}{5}$  to  $3 \frac{1}{8}$  in combined head and body; ventral  $1 \frac{1}{8}$  to  $1 \frac{1}{4}$  in head; caudal spine  $3 \frac{1}{4}$  to  $4 \frac{3}{4}$ .

Snout normal or <sup>extension</sup> ~~extended~~ 2333  
~~into~~ short, <sup>and</sup> fleshy, projecting  
freely over mouth. Eyes separated  
by low ridge, lower little  
advanced. Mouth moderate,  
asymmetrical, jaws of blind side  
curved; upper jaw notched to  
receive symphysis of lower jaws.  
Teeth small, pointed, in bands  
in jaws of blind side. ~~Interorbital~~  
~~naked~~ Nasal organ of blind  
side nearer median line of  
head than that of ocular side  
and below front dorsal rays;  
olfactory laminae parallel to  
one another and to main axis  
of body; no central rachis.  
Interorbital naked. Upper angle  
of gill opening level with pectoral  
base. Gill rakers moderate, slender,

757  
Chaetodon resimus Gray, Cat. Fish. Grenou,  
vol. 2, 1854, p. 71. Indian Ocean.

rather long. Scales Lower pharyngeals moderate or rather broad, in contact anteriorly. Scales small or moderate or rather irregular, nearly all cycloid on both sides of body. Dorsal and anal naked, without basal sheaths. Lateral line rising slightly or with very low curve anteriorly and short accessory branch. Dorsal begins near snout end well before nasal organ of blind side. Anal like dorsal, without spine. Pectoral more developed on eyed side. Right ventral only normally developed, with 6 rays joined to anal. Caudal convex, scales extending on both sides.

Four species in Southern Australia and New Zealand.

758

Holacanthus sexstriatus Cuvier.

Holacanthus sexstriatus (Kuhl and Van Hasselt)

Cuvier, Hist. Nat. Poiss., vol. 7, 1831, p. <sup>194</sup>~~445~~.

Java. — Günther, Cat. Fish. Brit. Mus., vol. 2,

1860, p. 49 (Molucca Sea). — Kner, Reise Novara,

Fische, 1865, p. 104 (Java). — Van Martens,

Preuss. Exped. Ost Asien, 1876, p. 388 (Singapore).

— Alleyne and Macleay, Proc. Linn. Soc. New

South Wales, vol. 1, 1876, p. 277 (Cape Grenville).

— Bleeker, Atlas Ichth. Ind. Néerl., vol. 9, 1877,

p. 66, plate (10) 372, fig. 4 (Singapore, Java,

Celebes, Amboina). — Károli, Termesz. Füzetek,

Budapest, vol. 5, 1881, p. 156 (Singapore). —

— Macleay, l.c., vol. 7, 1882, p. 244 (New Guinea). —

Meyeri, Linn. Soc. Espan. Hist. Nat. Madrid,

vol. 14, 1885, p. 18 (Macassar, Celebes). —

Düncker, Mittheil. Nat. Mus. Hamburg, band 21,

1903 (1904), p. 151 (Singapore). — Ogilby, Mem.

Queensland Mus., vol. 3, 1915, p. 105 (Hamley

Island).

(Macleay, Proc. Linn. Soc. New South Wales, vol. 2,  
1878, p. 352 (Port Darwin).

2335

Rhombosolea leporina Günther

Rhombosolea leporina (Günther), Cat.  
Fishes Brit. Mus., vol. 4, p. 460, 1862.  
(type locality: Australia). — ~~McCulloch~~

Hutton, Trans. Proc. New Zealand  
Inst., vol. 5, 1873, p. 268, pl. 11, figs.  
83a ( ). — Kner, Reise  
Novara, Fische, ~~pt.~~ p. 287, 1865  
( "Sydney" ). — Horman, Biol.  
Res. Endeavour, vol. 5, pt. 5, p. 283,  
June 15, 1926, ~~p. 283~~ (New Zealand).  
— McCulloch, Austral. Mus. Mem.,  
no. 5, pt. 2, p. 282, Sep. 10, 1929  
(compiled).

~~Holacanthus maculosus (Forsk.)~~

Chaetodon maculosus Forsk., Descript.

Animal., 1775, pp. XIII, 62. Lohaja, Red Sea.

— Gmelin, Syst. Nat. Linn., 1789, p. 1267

(Arabia). — Walbaum, Arted. Pisc., vol. 3,

1792, p. 415 — (in Forsk.). — Schneider,

Syst. Ichth. Bloch, 1801, p. 220 (Arabia).

Holacanthus maculosus Cuvier, Hist. Nat.

Poiss., vol. 7, 1831, p. 132<sup>176</sup> (Lohaja). —

Günther, Cat. Fish. Brit. Mus., vol. 2, 1860,

Kossmann and Reuber, Zool. Ergebn. K. Akad. Wiss. Berlin, Roth. Meer., 1877, p. 14. —  
p. 45 (Red Sea). — Klunzinger, Fische.

Roth Meer., 1884, p. 61, plate 8, fig. 1

(Australia and Kosier).

Holacanthus arusek Lacépède, Hist. Nat. Poiss.

vol. 4, 1802, pp. 528, 537. Arabia.

Holacanthus coerulescens Rüppell, Atlas

Reis. nördl. Afr. Fisch., 1828, p. 133. Red Sea.

— Rüppell, Neue Wirbelth. Fisch., 1835, p.

31 (name). — Kossmann and Reuber,

? Bowenia novae-zelandiae Haast,  
 Trans. Proc. New Zealand Inst., vol. 5,  
 p. 277, pl. 16, 1873 (type locality: New  
 Zealand).

Rhombosolea flexoides Hutton, Trans.  
 New Zeal. Inst., vol. 8, p. 215, 1876.

Rhombosolea millari Waite, Rec.  
 Canterbury Mus., no. 1, pt. 3, p. 205,  
 pl. 37, June 24, 1911 (type locality:  
 Hawke Bay, New Zealand).

755

Klunzinger, Fische. Roth Meer., 1889, p. 60  
plate 8, fig. 2.

Holacanthus maculosus (am Forstbül)  
Rossmann and Reuber, ~~Abhandl. Vindob.~~  
~~Mon.~~, p. 14, fig. 2. Ergebn.  
Abhandl. Wiss. Berlin Roth. Meer.,  
1877, p. 14.

Rhombosolea plebeia (Richardson)

Platessa?

(Rhombus?) plebeius Richardson, Trav.  
New Zealand, Dieffenbach, vol. 2, p.  
222, 1843 (type locality: New Zealand).

Rhombosolea plebeia Gill, Mem.  
Nat. Acad. Sci., vol. 6, p. 121, 1893  
(reference). — Waite, Rec. Canterbury  
Mus., no. 1, p. 26, 1907 (name); p.  
203, pl. 35, 1911 ( );  
Rec. South Austral. Mus., vol. 2,  
p. 157, fig. 257, 1921. — Norman,  
Biol. Res. Endeavour, vol. 5, p. 5,  
p. 282, June 15, 1926 (New Zealand;  
Auckland Islands; Australia?).  
— McCulloch, Austral. Mus.  
Mem., no. 5, pt. 2, p. 282, Sep. 10,  
1929 (compiled).

760

Depth  $1\frac{3}{4}$  to  $1\frac{4}{5}$ ; head  $3\frac{1}{5}$  to  $3\frac{3}{5}$ , width  $1\frac{3}{4}$  to 2. Snout — 2 to  $2\frac{1}{3}$  in head from upper jaw tip; eye  $2\frac{7}{8}$  to  $5\frac{1}{3}$ ,  $1\frac{1}{5}$  to  $2\frac{4}{5}$  in snout, 1 to  $1\frac{3}{5}$  in interorbital; maxillary extends about  $\frac{2}{5}$  in snout length, in small examples to point about  $\frac{3}{4}$  or opposite front nostril,  $3\frac{1}{3}$  to  $3\frac{4}{5}$  in head; interorbital 3 to  $3\frac{1}{3}$ , broadly convex; preopercle <sup>along inner edge</sup> spine,  $2\frac{2}{3}$  to 4. Gill rakers 57-13, short, obtuse points, about  $\frac{1}{4}$  of gill filaments, which equal eye.

Scales 50 to 63 counted along and above lateral line to caudal base; tubular scales 50 to 52; 7 or 8 scales above lateral line, 25 or 26 below. Scales with 7 basal radiating striae obsolete with age; apical denticles ~~the~~ 50 to 87, each with long slender root; circuli fine, strong.

D. XIII, 19, I or 20, I, last spine  $1\frac{1}{2}$  to  $1\frac{1}{2}$  in total head length — seventh ray  $3\frac{1}{8}$  to  $3\frac{1}{4}$ ; A. III, 18, I or 19, I, third spine  $1\frac{1}{2}$  to  $2\frac{1}{4}$ , ninth ray  $1\frac{1}{10}$  to  $1\frac{1}{6}$ ; least depth of caudal (in total head in combined head and body)

Pecunicle 2 to  $2\frac{3}{4}$ ; caudal convex behind,  $1\frac{1}{5}$  to  $1\frac{2}{5}$ ; pectoral 1 to  $1\frac{1}{4}$ ; ventral  $2\frac{1}{4}$  to  $2\frac{2}{5}$  in combined head and body.

Generally dull brown, with 6 dusky-brown vertical bands slightly arched forward and second, fourth and

Rhombosolea monopus Günther, Cat. Fishes  
Brit. Mus., vol. 4, p. 459, 1862 (type  
locality: New Zealand; Bay of Islands;  
Australia). — Hutton, Cat. Fishes

New Zealand, p. 51, 1872. — Hector,  
Cat. Fishes New Zealand, p. 117, pl.  
9, 1872. — Steindachner, Sitzs. Ber.  
Akad. Wiss. Wien, math.-nat. Kl.,  
vol. 80, pt. 1, p. 170, 1880 ( ).  
— Klunzinger, Sitzs. Ber. Akad.  
Wiss. Wien, math.-nat. Kl., vol. 80,  
pt. 1, p. 407, 1880 ( ).  
— Macleay, Proc. Linn. Soc. New  
South Wales, vol. 6, p. 129, 1882.

Apsetta thompsoni Kyle, Proc. Zool.  
Soc. London, 1900, p. 286, figs. 1-3.

757

Holacanthus lineatus Rüppell, Atlas  
Reise. nördl. Afr. Fische, 1828, p. 133.

Massana, Red Sea. — Rüppell, Neue  
Wirbelth. Fische, 1839, pp. 31, 32, 36, plate  
10, fig. 1.

Holacanthus haddaji Cuvier, Hist. nat.  
Pois., vol. 7, 1831, p. 137. Massana.

Holacanthus mokshella (Ehrenberg) Cuvier,  
l.c., p. 133. Massana.

~~Holacanthus affinis (part) Künzinger,~~  
~~Verh. zool. bot. Ges. Wien, Band 20, 1870,~~  
~~W. 18, Col. 64.~~

D. XI or XII, 21 or 22; A. III, 19 to 21; both  
fins well produced. Dark brown or brownish  
gray, with lighter vertical band from hind  
half of spinous dorsal. Front part of body  
with black semilunar spots. Vental yellowish.  
(Günther.)

Reaches <sup>420</sup>~~420~~ mm. according to ~~Reuter~~ Künzinger.

Rhombosolea retiaria Hutton

2339

Rhombosolea retiaria Hutton, Trans. New Zealand Inst., vol. 6, p. 107, 1874.

(~~Rhombosolea retiaria~~ on Hutton).

Ann. Mag. Nat. Hist., ser. 4, vol. 12, 1873, p. 401;

— Waite, Rec. Canterbury Mus., vol. 1, p. 27, 1907 (name); p. 207, pl. 38.

Rhombosolea tapirina (not Günther)  
Hector, Trans. New Zealand Inst.,  
vol. 5, p. 268, <sup>pl. 17,</sup> fig. 83 b., 1873.

— Horman, Biol. Res. Endeavour, vol. 5, pt. 5, p. 281, June 15, 1926 (New Zealand).

2340

Rhombosolea tapirana Günther

Rhombosolea tapirana Günther, Cat.  
Fishes Brit. Mus., vol. 4, p. 459, 1862  
(type locality: Australia; King George's  
Sound; Auckland Islands; Norfolk  
Bay, Tasmania). — Hutton, Ann.  
Mag. Nat. Hist., ser. 4, vol. 12, p.  
401, 1873 ( ); Trans.  
Proc. New Zeal. Inst., vol. 6, p.  
106, pl. 19, fig. 83c, 1874; vol. 8, p.  
215, 1876 ( ).  
Waite, <sup>Subantarctic Fauna, vol. 15, Vertebr., p. 590, 1909; no.</sup> Rec. Canterbury Mus., vol.  
1, p. 204, pl. 36, 1911; p. 27, 1913 (name).  
— Horman, ~~Rec. Austral. Mus.~~  
Biol. Res. Endeavour, vol. 5, pt. 5,  
p. 284, June 15, 1926 (Western Australia?,  
South Australia, Victoria, southern  
New South Wales, Tasmania, New Zealand,  
Auckland Islands, Campbell Island).  
— McCulloch, Austral. Mus. Mem., no.  
5, pt. 2, p. 282, Sep. 10, 1929 (compiled).

Holacanthus asfur (Forsskal)

Chaetodon asfur Forsskal, Descript.

Animal., 1775, pp. ~~XII~~ XIII, 61. Lohaja, Red Sea.

— Gmelin, Syst. Nat. Linn., 1789, p. 1267 (Arabia). — Walbaum, Arted. Pisc., vol. 3, 1792, p. 406 (copied). — Schneider, Syst. Ichth. Bloch, 1801, p. 219 (Arabia).

Chetodon asfur Bonnaterre, Tabl. Ichth., 1788, p. 88 (Red Sea).

Pomacanthus asfur Lacépède, Hist. Nat. Poiss., vol. 4, 1802, pp. 518, 522 (Arabia).

Holacanthus asfur Rüppell, Atlas Reise. nördl. Af. Fische, 1828, p. 132, plate 34, fig. 2 (Red Sea). — Cuvier, Hist. Nat. Poiss., vol. 7, 1831, p. ~~130~~ <sup>134</sup> (Lohaja). —

Günther, Cat. Fish. Brit. Mus., vol. 2, 1860, p. 45 (Red Sea). — Playfair, Fishes of Zanzibar, 1866, p. 37 (Zanzibar, Aden). — Klunzinger, Verh. zool. bot. Ges. Wien, band 20, 1870, p. 759 (Red Sea). —

Rhombosolea flesoides Günther, Ann.<sup>2341</sup>  
Mag. Nat. Hist., ser. 3, vol. 11, p. 117, 1863  
(type locality: Victoria). — Waite,  
Rec. Austral. Mus., vol. 6, pt. 3, p.  
197, pl. 35, 1902 (Melbourne; Queenscliff);  
Rec. Canterbury Mus., no. 1, p. 27, 1907  
(name). — Stead, Edible Fishes New

South Wales, p. 104, 1908. — McCulloch,  
Austral. Zool., vol. 2, p. 46,  
pl. 13, 1921. — Waite, Fishes of  
South Australia, p. 181, 1923.

Pleuronectes ? victoriae Castelnau, Proc. Zool.  
Acclimat. Soc. Victoria, vol. 1, p. 168, July  
15, 1872 (type locality: Melbourne).  
Rhombosolea victoriae Macleay, Proc. Linn.  
Soc. New South Wales, vol. 6, p. 133, 1881.

— Waite, Rec. N. Austral. Mus., vol. 2,  
p. 158, 1921.

Holacanthus arcuatus Gray.  
Holacanthus arcuatus Gray, Zool.

Miscellany, 1831, p. 33. Hawaiian Islands.  
— Günther, Cat. Fish. Brit. Mus., vol. 2,  
1860, p. 43 (type). — Günther, Journ. Mus.  
Godeffroy, band 2-3, <sup>left</sup>5-6, 1874, p. 50,  
plate 32, fig. c (type). — Fowler, Occas.  
Pap. Bishop Mus., vol. 8, no. 7, 1923, p. 386  
(Honolulu). — Fowler, Bishop Mus. Bull.,  
no. 22, 1925, p. 34 (Honolulu).

Easily known by its pale drab or  
gray white color with the broad black  
median band longitudinally, also  
hind borders of caudal and anal  
black.

Hawaiian specimens obtained by  
Fowler have now been placed in the  
U. S. National Museum.

2342  
? Rhombosolea monopus (not Günther)

Woodward, Western Austral. Year  
book, 1900-1 (1902), p. 272. — Stead,  
Fishes of Australia, p. 181, 1906.

Holacanthus fisheri Snyder.

Holacanthus fisheri Snyder, Bull. U. S. Fish Comm., vol. 22, 1902 (1904), p. 532, plate 11, fig.

21. Off Diamond Head, Oahu, in 27 to 29 fathoms; south of Honolulu; between Maui and Lanai; off southern Oahu in 14 to 43 fathoms.

Reddish orange in life, tinged dusky behind. Diffuse black blotch above pectoral. Dorsal narrowly edged black. Anal broadly blackish behind, edge narrowly blue. Caudal yellow medially. Pectoral orange. Ventral orange, dusky marginally, spine and first ray pearl blue. Length 83 mm.

~~550881~~ Type, U. S. N. M. Station 4032, Hawaiian Islands. Albatross Collection. 55318 U. S. N. M. South coast of Oahu. Albatross Collection. 3 paratypes.

55319 U. S. N. M. Between Maui and Lanai. Albatross Collection. 6 examples.